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Bahaaeddin Alareeni
Allam Hamdan *Editors*

Technology: Toward Business Sustainability

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Preface

In an age defined by rapid technological advancements and a growing awareness of environmental and societal challenges, the convergence of technology and business sustainability emerges as a pivotal theme. This book, aptly titled “Technology: Toward Business Sustainability,” endeavors to unravel the intricate relationship between technology and the pursuit of sustainable business practices.

The genesis of this book lies in the recognition that technology, when harnessed judiciously, has the potential to act as a catalyst for fostering sustainability across diverse industries. From renewable energy solutions and eco-friendly manufacturing processes to the integration of artificial intelligence for more efficient resource management, the possibilities are vast and transformative.

As we embark on this exploration, the contributors to this volume, a diverse assembly of thought leaders and experts, present a collection of insights, analyses, and case studies that illuminate the intersection of technology and business sustainability. The goal is not only to comprehend the current landscape but also to envision the future trajectory of businesses operating in harmony with the principles of environmental and social responsibility.

The book welcomes a range of perspectives, from theoretical frameworks that underpin the conceptual foundations to practical applications that demonstrate the tangible impact of technology on sustainable business practices. Whether you are an academic seeking a deeper understanding, a business professional navigating the complexities of sustainability, or a policymaker shaping the agenda for responsible business practices, the content within these pages aims to provide valuable insights and provoke thoughtful consideration.

The chapters within this book traverse a broad spectrum of industries and technologies, reflecting the diverse ways in which innovation can contribute to a more sustainable future. By delving into topics such as circular economy models, green technology adoption, and the role of big data in sustainability initiatives, the contributors contribute to a holistic understanding of the multifaceted challenges and opportunities at the intersection of technology and business sustainability.

May this book serve as a source of inspiration for those seeking to integrate technology seamlessly into their sustainability efforts. It is our hope that the collective wisdom contained herein will not only enhance awareness but also catalyze action, encouraging businesses to embark on a path of sustainable practices driven by the transformative power of technology.

Bahaaeddin Alareeni
Allam Hamdan

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EuroMid Academy of Business & Technology (EMABT)

Vision

There is an ever-increasing need for high-quality research in most if not all aspects of twenty-first-century society. Universities are the primary providers of quality research education. Quality research education requires the participation of both established faculty, newly appointed staff, and research students. There is also the requirement for the academic to reach out to the general society as comprehensively as possible. As the university sector becomes increasingly focused on research excellence, there is a need to provide more fora, primarily in the form of peer-reviewed conferences, for academics to exchange ideas, questions, problems, and achievements concerning their personal research activities. These fora provide opportunities to exchange ideas, experience critiques, and obtain some recognition for individuals' progress toward research excellence. The more international the fora the more effective it is. Although publishing in highly rated indexed academic journals is still the most prized form of academic communication, the conference has become a significant outlet for research findings as well as an important facilitator to achieving this goal.

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To facilitate the creation of global academic research communities by providing all the administrative and management functions required to deliver a comprehensive academic conference experience. This is supported by the provision of seminars, workshops, and the publishing of suitable books, monographs, and proceedings. It is also supported by four academic journals some of which are Scopus and Web of Science indexed (English and Arabic).

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EuroMid Academy of Business & Technology (EMABT) aims to support the Academic Community in Europe, the Middle East, and other countries Worldwide. EMABT aims to manage a range of Conferences Worldwide as well as offer an online Academic Bookshop, Publishing, and Dissertation Service.

Our focus is entirely on business, entrepreneurship, and technology but over the next years, we will broaden these areas to others. Global reach is one of the dimensions that differentiates us in the marketplace. At any given conference, there are well-known

speakers/experts from many countries. Some of the conferences will have with them master classes in their associated field which will be run on the day before the conference.

Details of this event are contained on our website at <http://www.embta.com/>.

Conference Title

The International Conference on Business and Technology (ICBTCAMBRIDGE'2024)

Overview

The International Conference on Business and Technology (ICBTCAMBRIDGE'2024) is organized by the EuroMid Academy of Business and Technology. ICBTCAMBRIDGE'2024 will be hosted by the University of Cambridge, UK, and is scheduled to take place on April 19–20, 2024, at Murray Edwards College, the University of Cambridge, UK.

The main objective of the ICBTCAMBRIDGE'2024 is to gather leading academicians, scholars, and researchers to share their knowledge and new ideas as well as to discuss current developments in the fields of business, education, social, and technology.

The ICBTCAMBRIDGE'2024 aims to achieve other objectives as follows:

Highlighting business and technology problems that are faced by institutions in a scientific way, in addition to finding the possible practical solutions for them.

Encouraging scientific research in business and technology areas may contribute to sustainable improvements to it.

The conference also offers opportunities for academicians and industry experts to meet and interact with local and international participants.

Enable the researchers to publish their contributions in high-ranked journals and indexed proceedings by Scopus.

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Augmented Reality Applied to Journalism

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Abstract. Media organizations in the current world find themselves amid rapid and relentless transformations, and from this is the aspiration towards applications based on innovation and renewal. From this emerged the importance of virtual reality and augmented reality applied to journalism for journalism. The trend towards creating a broader and more interaction with the audience who lives in the details of the digital environment is based on mixed reality, or what is called extended reality. The focus is on enhancing the field of audience participation in virtual and augmented reality through the acquisition of a Head-Mounted Device or augmented means such as Glasses, helmets, gloves, or special suits. Thus, the real is mixed with the virtual to the extent that experiments today are looking towards tracking signs, data, and information and working to integrate them with the physical human senses to create effective communication and achieve a unique and rich experience for the public.

Keywords: Media organizations · virtual reality · journalism · applied to journalism

1 Introduction

News games: A process based on investing in video games and employing them in journalistic work. By focusing on organizing, preparing, and producing programs related to documentaries and following up on events and simulations [1, 2]. It is the explanatory means that is relied upon to provide more explanations about an issue or issue that deals with a story from reality or to work on making a story that derives its details from fact. It is the means to deepen the impact of discussions by integrating journalism and video technologies, based on a focus on employing games that surround documentaries and news [3]. News learning and machine media are an attempt to sort out the vast amount of journalistic follow-up for a single piece of news on the Internet [4]. Moreover, work on investing in Natural Language Processing [NLP] applications. It is related to monitoring and collection procedures first, then comes the stage of analyzing and evaluating those

articles to determine the balance of the various media outlets in covering the news by using consensus-measuring consensus/discord. News media and computer vision, news media and computer vision are based initially on studying and analyzing images published on social media and monitoring comments about them [5, 6] Cultural analysis and content analysis are essential for extracting the arithmetic average for using images. Since this technology is circulated in the Internet medium, the matter remains dependent on the responses of the users' audience and the evaluation of the number of tweets issued by the users [7]. It is not just about employment in social media. Still, this technology is invested in the industrial and commercial areas, so the investment market in the United States of America in this field is expected to reach about 48 billion dollars in 2022 [3].

News media, planning, scheduling, and optimization: This technology relies on the existing possibilities to reach the target audience through the distribution of contact frequencies and work on developing an estimated model based on the available data [8]. This technique includes several means, such as a taboo search that selects a possible solution from similar operations and employs the simulated annealing technique, which is based on approximating the maximum possibilities and matching them based on a specific job. Furthermore, working on investing in genetic algorithms inspired by the field of biology, developing solutions based on the concepts of selection and mutation, and applying them in the field of decision trees to build a good media schedule based on the organization of time, duration and space decision, and repeat the message [3].

2 Emotional Computer

In light of the talk about objective reality and virtual reality, the enormous and profound developments that digital technology has achieved until the talk about affective computing have become very important and influential in contemporary life [9, 10]. Especially since the interaction between humans and computers has resulted in more profound psychological, social, and cultural transformations, the discussion here focuses on the conditions of interaction between man and machine, mainly since the features of the cyborg human are formed during the present time in which we live. It is no longer possible for a person to give up carrying a smartphone in the entirety of the details of his life. Instead, the device has become a part of his body, and it accompanies him in all the humane actions he performs. Imagine with me that you forget the smartphone [11]. Furthermore, do you consider the possible consequences of this act? A bond of an intense kind has already been formed between the human and the computer. All indicators point to the conditions of the deep connection between humans and computers. This matter will inevitably lead us to think about the high rate of emotion between the two parties [12]. We are indeed talking about a relationship that exists between a human being and a deaf machine, but we must carefully consider that this deaf machine, as a result of continuous feeding with programs and work on repeating actions by the user, and the interaction that activates the algorithms, will produce more emergence conditions The relationship of mutual understanding between the two parties [3]. Even the computer satisfies more user requirements based on repetition. Which started as a surprise to the user, but as a result of habituation, the response conditions issued by the computer increased remarkably. We are talking about an attempt to reveal the extent of the possible emotional relationship

between the human and the computer based on careful consideration of the speech acts of the human being and the production of texts. Instead, providing the computer with some sensors will significantly impact reading, measuring, and evaluating speech acts. Emanating from the human, movements, and signals, and even reading the rate of high blood pressure and the physical, psychological, and mood stability of the user, the main goal on which the idea of emotional computing is based AC is based on the constant attempt towards the establishment and establishment of a computer system that helps in monitoring the emotional state of the user on The level of moods and emotions, and the method of possible response, and this includes several activities related to video games, techniques related to education, and mental health [3].

3 Emotion Functions

Affective computing is a system based on activating the relationship between humans and computers. It starts from the focus on understanding the function of emotion and its direct impact on achievement and work [13, 14]. The matter here does not stop observing a feeling, as it is based on the fact that the surface takes various forms, responses, and situations, which calls for stopping and analyzing it. The relationship between the human and the computer is based initially on the cognitive aspect. Still, due to diversity, change, and development, the importance of stopping at the moving part has emerged due to the significance of the interaction between human-computer interaction [HCI] in this field, which will produce more Among the results related to the importance of the two sides [cognitive and emotional] in strengthening the relationship between humans and the computer, and thus access to a computer that can respond to user requirements more effectively [3]. And if the field of interaction stopped focusing on the design of the laptop and working on its development, the new research began to expand to include the totality of technology attached to the design, digital programs, and add-ons and accessories, which take into account the value of the interaction between the two parties [7]. The developments that appeared in the field of design and production of personal computers resulted in the emergence of software that responds with high flexibility to the user's needs [15]. As the user is dealing with game programs, accounts, words, and texts more flexibly and efficiently, especially after the issue of high price has been addressed, and access to computers has become at a reasonable price, in addition to the production of computers of excellent and acceptable sizes that allow the user, a comfortable workspace. And safe. To highlight the importance of the possible interaction between humans and computers necessitated directing attention and attention to more disciplines related to emotional intelligence and computer science [3].

4 Multidisciplinary Emotions

Several disciplines interact in the development and development of affective computing. The fruitful and constructive cooperation between engineering, computer science, neuroscience, physiology, psychology, philosophy, sociology, and more theories of cultural criticism. And this field remains open for more scientific severe contributions, seeking to root many essential aspects in the digital age in which we live. From the reality of

the importance of this field, the significant countries began a strong trend towards development and construction. The United States of America was the leader in this field, followed by China, urging steps to obtain an advanced position. Indeed, it has become today at the forefront of innovation and development. It is supported by cooperation and exchange of experiences with countries interested in this aspect. And despite the sharp animosity between China and the United States, the features of collaboration remain between the two sides. The focus here is on intensifying the field of research in a lot of smart cities and various commercial activities, in marketing and advertising, expanding the areas of automated management, expanding the role of robots in providing personal services, developing the work of the robotic car, expanding home assistant tests, and Monitor mood, monitor borders, and large geographical areas. It is the field that is more developed and more comprehensive in all the details of life, a field that is not based on reading the reactions of the user, as much as it is looking towards creating a kind of partnership and relationship based on emotion between humans and computers, reaching the mutual responses between the two parties [3]. This field, for which Rosalind Picard laid the theoretical foundations in 1995, stemmed from the idea of the conditions of the intended exchanges of emotions between humans and computers, given that the expansion in the field of artificial intelligence and the growth of encryption processes, especially in emerging smart cities, is now giving way A broader range of activities associated with biosensors, as well as deep learning algorithms to sense [3]. Which has a decisive role in classifying, tracking, and sensing emotional states. Especially since the applications for this field are bearing fruit in commercial application, marketing, and management operations, this is what is revealed by reality until the contribution of the dynamic computing field has become its direct contribution to the global market [16, 17], whose actual capital in the market has reached nearly 21 billion US dollars. Experts estimate that this number will double during the year 2024. A contribution that can be monitored in The field of education through the Class Dojo program [3], which provides teachers with integrated briefings on the psychological conditions of students and works on monitoring their positive Behavior. In the field of games and entertainment, the Moxie game, which directly contributes to the child's emotional development, was circulated. The Spotify algorithm plays a role in sensing the mood of the user. The Emotion Engine, developed by Honda Motor Company in cooperation with Honda and Softbank, highlights the driver's conditions [3].

5 Feelings of Leadership and Management

Emotional computing directly impacts the work environment, as major companies are looking towards field applications to find more accurate and objective management based on precise information. The direct impact is now visible in increasing productivity [18]. Applications have been introduced in recruitment and work control based on digital data, free from moods and personal situations. Other companies are turning to using voice-analytic software to monitor the spirit of their employees, and this has been reflected in the reports issued by the senior management of these companies, enabling managers to write accurate essays against working employees and make successful decisions. Based on the manager's knowledge of the employee's emotional state [3]. Other

companies have invested in biosensing technology by placing a sensor in the employee's wrist to read and follow moods and emotional states and even help detect mental illnesses that the employee may be exposed to [3]. Other companies focused their efforts on studying and analyzing employee happiness through applying mood awareness and measuring their ability to engage co-workers in achieving positive results [7]. A company from Microsoft, on its part, directed a project that corresponds to its capabilities and capabilities in developing an emotion-sensing project. Emotion-sensing to track well-being, based on awareness of the impact that COVID-19 will have on the world [19] Senior management in companies is now reaping the fruits of emotional computing applications clearly and, especially in terms of using algorithms in designing programs that contribute to the monitoring of talents and outstanding abilities by calculating that the evaluation criteria depend on firm foundations and objective criteria through which [skills and achievements are sorted] in the scope of work. Instead, the positive signal is crystallized in the growth of the optimistic spirit of the talented and active employee; he lives in the middle and does not ignore the achievements that he presents. From this reality, the employees monitored more contributions and participation, which impacted the workflow and increased production. This is in addition to the search for new means of tracking workers away from traditional frameworks that challenge their pride and limit their passion for work, which contribute effectively to the development of the spirit of loyalty and belonging to the institution in which they work [20]. Talking about the positive energy and the crucial achievements in emotional computing does not mean that the path does not suffer from some intersections and errors. For example, the application of [face biometrics] faces more problems, especially when dealing with different work environments related to race and gender, the cultural differences in the way these programs are implemented, and the conditions, conditions, and circumstances that are designed in it. And how to apply it in another cross-cultural work environment.

6 Quality Communication

The importance of social interaction as a person's communication with others in an adaptive manner. This communication is based on several critical skills represented in perceiving, recognizing, managing, self-expression, and distinguishing feelings. Based on this, the question is: What do we want from emotional computing? This is because we stand on a relationship between a thinking and sane human being and a deaf machine whose effectiveness is based on the level of human initiative in providing it with programs and the indoctrination of information [21]. The matter here goes beyond this direct relationship; this is due to the importance of reconsidering the nature of the relationship between man and machine! Especially since the same person who has the initiative today loses the [initiative advantage [22] after he has placed himself captive to machine interactions that got algorithms, software, software, and sensors until the machine has become an assault on human movements, silence, feelings, exchanges, and degree Stress and anxiety in the wise man, who has revived in the machine intelligence that exceeds the capabilities of man in unattainable stages [3, 23]. Talking about practical computing may shock the average reader, especially when he feels an impossible relationship between a human and a machine. However, the context in which the relationship

between the two parties is organized makes it verifiable, primarily since this machine is based initially on cybernetics, where automatic control of information and work on its application by comparing models within the system. The controller working on modifying the Behavior of the system [3]. This is the case in emotional computing, which has become today working to provide practical exercises through applications and software that develop and improve the performance of beginners in the labor market, based on the focus on developing emotional intelligence among young people. This is what the League of Emotions Learners [LoEL] project is doing. The matter here is evident in how the roles are distributed, especially since the machine described as deaf is now responsible for training young people to develop emotional intelligence. And that is the ultimate paradox. The field of dynamic computing has expanded to include more areas in its studies and research. For example, one study documented reading adolescents' reactions to cyberbullying and well-being, and it concluded that high rates of satisfaction with well-being were observed. In contrast, the rate of negative attitudes towards bullying increased. email [7, 24].

7 Conclusion

Affective computing depends on the computational approach in measuring the mechanical influence of humans in the field of behavioral and physiological signals. The focus is on monitoring actual and simulated reactions of humans and measuring the effects in the real world. The orientation is toward data analysis and the direction towards sorting generalizable results [3]. In light of the development of research in this field, the aspiration is to distinguish more specialists and focus on reading human feelings rather than include what results from those feelings. This is due to the calculation that emotion has the most critical effect on the overall human interactions in the natural environment if it is at the level of work, perception, and the general human interaction processes [25]. Hence, affective computing studies have tended to develop multiple applications such as advanced sensing, computational modeling, objective scalable measurement, and real-world applications. From this emerges the importance of applying the approach to affect the size, which is based not only on monitoring the signals emanating from the body but also on the horizon of expectation, which is expanded about the possible possibilities [26]. The matter here is related to the study of emotions and the interactions that can result from them as we look towards making the most important field for the role of the computer in the processes [understanding and responding] to the emotional states issued by people, by working on decoding human emotions through the analysis of behavioral and physiological responses. Based on monitoring the emotional state in the various situations humans are exposed to, whether in terms of health, work, shopping, games, entertainment, investing in brain-computer interface technologies [BCI], and intelligent education systems. The focus here is on reading reactions at the physiological level, such as High blood pressure, body temperature, blood sugar, and heart rate measurements, as reactions that humans cannot control or control. This is in addition to the possibility of measuring it through the electroencephalography [EEG] technique, which is characterized by accurate results, low financial cost, and ease of transferring the results obtained to the reality of practical application. By investing in BCI-computer

interface applications [27]. Measuring behavioral reactions remains more complex as an orientation towards monitoring Voice, movements and signals, and facial expressions. All this remains subject to the possibility of spontaneity or intentionality on the part of the test subject [3].

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The Challenges of New Central Banks Crypto-Currencies: CDBC

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Abstract. Crypto-currencies are digital currencies that can be used to settle transactions over the Internet, and their emergence is intended to bypass traditional currencies. At first, central banks were very wary, but following the spectacular growth in transactions with crypto-currencies, some central banks were seduced and decided to appropriate the “blockchain” program by creating their own “central bank digital currencies” (CBDCs). But the introduction of CBDCs poses a number of problems: what are the advantages of this new adoption, and what are the issues and impacts on households, banks and the economy in general, especially with virtually no regulation. Through this research paper we will try to answer these questions and take a closer look at all the issues surrounding the adoption of these new currencies issued by central banks.

Keywords: CDBC · bank disintermediation · monetary policy · Financial stability

JEL classification: e42 · g 28 · g 38 · E58

1 Introduction

Crypto-currencies have been designed to challenge state sovereignty over financial transactions and money; Al-Saqaf, W., and Seidler, N. (2017). Bitcoin emerged as the first decentralized crypto-currency, and originally created as an electronic version of cash, a money independent from the central operator and totally free from government or central bank control. As a result, the crypto-currency ecosystem initially provoked strong reactions from regulators, financial institutions and governments, who unanimously described its development as a speculative bubble, a scam or even “evil”, even though its proponents predicted that crypto-currencies would eventually replace cash; Dashkevich, N., Counsell, S., and Destefanis, G. (2020). But ten years later, with the rapid development of the “digitalization” of the economy”, the positions of regulators have evolved, and since 2021 several States and major financial institutions have begun to change their thinking and modify their rules to exploit the potential that crypto-currencies offer the economy in order to regain control of its development. Bhatt, A., Joshipura, M., and Joshipura, N. (2022). The recent Covid-19 crisis has propelled the digitization of

businesses and the economy, and given the rapid growth in transactions with digital currencies, it is important to understand how these new digital currency units will affect our modern society. Arner, D. W., et al. (2020). Over the past two years, a significant number of financial institutions have begun to actively allocate capital in this area. As a result, the crypto-currency market has skyrocketed, Clark, E., Lahiani, A., and Mefteh-Wali, S. (2023). With over 300 million users worldwide, a cumulative investment of over US\$30 billion (up from just over US\$2 billion at the end of 2019) and a total market capitalization in excess of US\$3 trillion. Major financial services providers are now making it easier for consumers to transact using crypto-currencies. For example, Paypal, and Mastercard have unveiled plans to support crypto-currency payments on their network. Traditionally, issuing money has been one of the key elements of a state's sovereignty; Mitchener, K. J., and Trebesch, C. (2023). Some countries have adapted to these new circumstances in line with their political objectives. As a result of the growing popularity of bitcoin and the widespread use of blockchain technology, many other crypto-currencies have emerged and blockchain technology is increasingly used by governments, central banks and other private companies around the world; Pakhnenko, O., et al. (2023). However, despite the fact that traditional economic regulators are gradually appropriating these technologies, they are seeing a growing weakening of their ability to control and a loss of legitimacy on the part of civil society, considerably weakening their authority in the various global economic spaces. The spectacular growth of crypto-currencies is therefore taking place both in the shadows and with the support of the law in the absence of regulation: decentralized platforms attract capital prepared to take high risks, while centralized platforms allow more cautious investors, both individuals and institutions, to share in the profits of one of the few emerging industries, considerably strengthened by the economic crisis linked to the Covid-19 pandemic. Andrae, S. (2023). But the positions taken by governments on the subject still raise the issue of sovereignty. For this reason, the positions taken vary considerably from one country to another, and even from one regulatory body to another, so different and mutually influential are their interests. For this reason, we will address these different aspects in three separate sections; Lawo, D., et al. (2023).

Through our research, we will try to explore this new concept that has emerged in the last two years, namely the interest of central banks in digital currencies, by creating their own currencies, despite the lack of regulation and problems of sovereignty and also problems related to transaction controls. We will try to contribute by focusing on the issues and challenges facing central banks through the creation of their own digital currencies. Our work will be composed as follows: in the first part we will present crypto-currencies and their developments and the issues of sovereignty. Secondly, we will look at the challenges of crypto-currencies for central banks. In the third part we will examine the impact of the creation of these new CDBC currencies on households, banks and economies, and finally the conclusion.

2 Literature Review: Crypto-Currency and Currency as a Sovereignty Issue

2.1 The Concept of Digital Currency

Unlike 'real' money, digital money or crypto-currencies such as Bitcoin and Libra are independent of central banks and financial institutions, since they are not regulated by any central authority and are governed by a complex algorithm; Bitros, G., and Malliaris, A. G. (2023). Its value fluctuates according to supply and demand on sites that act as exchange desks, a totally anonymous exchange protocol is based on a peer-to-peer network. Bitcoin transactions are based on mining and blockchain technology. Once created, Bitcoins are stored in a virtual wallet on the hard drive of the owner's computer and can be exchanged with third parties; An, M., Fan, Q., Yu, H., and Zhao, H. (2023). Transactions are anonymous because they are made without going through a bank, no account is registered and bitcoins are transferred directly from one computer to another. Transactions are faster and cheaper than traditional payment methods, but the Bitcoin system does not guarantee security in the event of loss, theft or fraud. Dudani, S., Baggili, I., Raymond, D., and Marchany, R. (2023). Digital currencies do not fulfil the three functions of money: medium of exchange, unit of account and store of value. Zainal, M. A. G., et al. (2022). These three functions require monetary values to be recognized and maintained in order to increase user confidence. In short, it is an unregulated, digital currency, issued and usually controlled by its developers, and accepted only by members of a specific virtual community. It is a high-risk speculative asset with no intrinsic value because it is not backed by any underlying asset. Ashfaq, M., Hasan, R., and Merçon, J. (2023).

2.2 CBDC

Many authors still consider bitcoin and other crypto-currencies to be partial currencies. Since they do not fulfill the classic functions of currencies, namely the functions of unit of account, intermediation and store of value; Claeys, G., Demertzis, M., and Efstathiou, K. (2018). These new digital currencies only marginally fulfil their transactional function. The empirical volatility of crypto-currencies makes them very poor units of account and yardsticks of value. When they are "stablecoins" anchored to a public currency with a parity that is in principle fixed, the excess volatility in crypto-currencies is likely to be curbed; Huber, J. (2023). However, some "stablecoins" have proved to be highly unstable with trading platforms unable to cope with impromptu and massive withdrawals of liquidity by investors. Díaz, A., Esparcia, C., and Huéllamo, D. (2023). Crypto-currencies are still considered by central banks to be crypto-assets. Insofar as crypto-currencies are private and decentralized, they represent a challenge, if not a threat, to central banks and the monetary policy they conduct. Echarte Fernández, M. Á., et al. (2021). Because they interfere with the authority of banking and financial regulators, the ability of States to control their own currency, and central banks' ability to regulate payments and the money supply. Morgan, J. (2022). In some cases, they can be used to circumvent regulations on the fight against money laundering and the financing of terrorism; Teichmann, F. M. J.,

and Falker, M. C. (2021). The creation of a crypto-currency by a Central Bank, a trust-generating institution, would ensure the stability of the crypto-currency. It could then be considered as a real currency; Sannidhi, S., and Sharma, R. (2022). Secondly, in order to regain control of transactions, central banks have every interest in creating their own virtual currency. They could then regain their regulatory and stabilizing role. Crypto-currency is the new challenge for central banks if they want to regain their sovereignty and offer their customers new, reliable and digital means of payment; Coulter, K. A. (2022). As a result, a number of central banks around the world have begun the process of developing their own digital currencies; Bagis, B. (2022). Unlike private digital money such as bitcoin, whose value can fluctuate wildly, MNBCs are a stable value and are easy to convert Al-Salahat S.M. (2022). Central bank digital currencies (CBDCs) are forms of digital currency issued and regulated by central banks. They are designed to complement existing payment systems and offer additional benefits such as speed, security and financial inclusion. The origins and challenges of CDBC can be summarized as follows:

2.2.1 Creation of CDBC

The emergence of technologies such as blockchain has opened up the possibility of creating digital currencies issued by central banks. These technologies offer security and transparency features that could benefit financial transactions. The rise of decentralized crypto-currencies, such as Bitcoin, has sparked interest among central banks to explore the possibility of issuing their own digital currencies. CDBC could provide a more regulated and controlled alternative to crypto-currencies, while retaining some of the benefits of the underlying technology. To define central bank-created digital currency: an electronic form of central bank money that, like banknotes, would allow everyone to make their daily payments quickly, easily and securely Lee, D. K. C., Yan, L., and Wang, Y. (2021). This definition means that it is recognized by law as a means of settling debts or meeting financial obligations such as paying taxes. Duffie, D., Mathieson, K., and Pilav, D. (2021). Two main forms of central bank digital currencies are being extensively studied by monetary institutions at this stage:

- Wholesale digital currency: “Wholesale” digital currency targets a specific group of eligible users: it is designed for restricted access by financial institutions and intended for central bank reserve and settlement accounts. Cunha, P. R., Melo, P., and Sebastião, H. (2021). As a result, it is primarily designed for the settlement of interbank payments and is intended to be faster and more efficient than the technologies currently used for interbank settlements (see next section).
- Retail digital currency: Unlike “wholesale” digital currency, “retail” digital currency is not targeted at a specific user group but is intended to be widely available. It represents a commitment by the central bank and is intended to be a digital equivalent of cash that can be used by households and businesses. It is therefore issued by the central bank, denominated in the national unit of account and most often requires the opening of an account directly with the central bank. As such, it offers the general public a new option for holding money.

However, digital retail money is intended to be different from existing forms of payment instruments:

- It differs from cash in that it is in digital form.
- Different from existing forms of cashless payment instruments offered to consumers, such as credit transfers, card payments and electronic payments, because it represents a direct claim on a central bank recorded on its balance sheet, rather than the liability of a private financial institution (typically a bank). Okina, Y. (2022).

2.2.2 The Benefits of CBDC

CBDC has some interesting favorable properties. Firstly, the money would be safe, whatever the bank's performance. The central bank would have a much more direct means of exercising its monetary policy: ensuring financial stability. Hoang, Y. H., Ngo, V. M., and Vu, N. B. (2023). An important task for a central bank is to provide economic players with an efficient and reliable payment system. Digital money from the central bank promises a gain in efficiency, since claims would be settled immediately. Auer, R., and Böhme, R. (2020). The advantages of interbank digital currencies are numerous and could meet several needs. We start by reducing the cost of cross-border operations, as transactions between different currency zones often require complex and costly settlement, as they require a variety of intermediaries and regulatory controls to transfer financial flows from one zone to another. Leinonen, H. (2023). However, the development of cross-border payments is essential to the smooth running of trade and financial markets¹. By using the technologies that support them, central bank digital currencies could improve trade by making it safer, cheaper and faster. The second advantage is to make interbank exchanges more fluid. In fact, the settlement of transactions on the interbank market (the market reserved for banks, where they exchange short-term financial assets with each other) could also benefit from a digital currency. Kaczmarek, P. (2022). The settlement process could be simplified and accelerated by using the blockchain technologies of a digital currency, in particular by reducing the number of intermediate transactions and reconciliation processes between different players and systems. Shkolnyk, I. O., and Zakharkina, L. S. (2022). With regard to retail central bank digital currencies, several factors explain the development of this type of digital currency. CBDCs are a response to the significant decline in the role of cash as a means of payment. In reality, banknotes and coins, which are the central bank's physical currency, continue to be the most important payment instrument in terms of volume and value in all countries. However, their share is tending to decline in favour of other means of payment: bankcards, credit transfers and mobile payments. This trend has been amplified by the Covid-19 crisis: cash transactions seem to have suffered from consumer concern about the risks of transmitting the virus *via* their use, and payment by "contactless" cards has been widely encouraged. Akata, D. (2022). The creation of a digital currency could contribute to a more efficient transmission of monetary policy. On the other hand, unlike cash, the central bank has the power to set a rate of remuneration for holding the digital euro and to have a direct impact on the consumption and investment decisions of private companies. Yang, J., and Zhou, G. (2022). Digital currency projects also aim to support the digitisation of economies and innovations in terms of payment methods. A digital currency available to the general public would support the digitalization of the financial sector; Vučinić, M., and Luburić, R. (2022). Finally, central bank digital currency could foster financial inclusion in emerging and developing countries, where a significant share of the

population has no access to the banking system. Ozili, P. K. (2023). After presenting the advantages of CBDCs, we will go on to present the issues and risks involved in the creation of central bank digital currencies.

2.3 The Challenges of CBDCs

Central bank digital currencies (CBDCs) present a number of international challenges. The main issues are as follows: We will start with the issue of Currency Competition: If CBDC are adopted globally, they could compete with existing foreign currencies, particularly reserve currencies such as the US dollar. This could affect international capital flows and the status and influence of national currencies. Kshetri, N. (2023). The second issue relates to global financial stability, as the introduction of CBDCs could have negative effects on this stability. International financial markets could be disrupted by the rapid and large capital flows associated with CBDCs. They could also increase exchange rate volatility. Dionysopoulos, L., Marra, M., and Urquhart, A. (2023). This is why it is recommended that international coordination and cooperation will be needed to manage these potential risks. The next issue relates to regulation and compliance, as CBDCs raise cross-border regulatory and compliance challenges. To ensure a safe and regulated environment for CBDCs, enhanced international cooperation will be required in the areas of money laundering, terrorist financing, tax fraud and other illicit activities. Kapsis, I. (2023). CBDCs can challenge the monetary sovereignty of states, particularly if a CBDC issued by a foreign central bank is widely adopted in a country. This could hamper the ability of governments to meet the needs of their national economy and conduct an autonomous monetary policy. Kuehnlitz, S., Orsi, B., and Kaltenbrunner, A. (2023). In fact, CBDCs could lead to new risks for consumers, such as cybercrime, scams and loss of personal data, which is a crucial issue for consumer protection. Central banks will need to work to put in place adequate standards and protections for CBD users. Sulimierska, M., and Sikorska, A. (2023). The final issue relates to the cost and complexity of operations, as the introduction and management of CBDCs can be costly and complex for central banks, particularly in terms of system development, maintenance and security. Dionysopoulos, L., Marra, M., and Urquhart, A. (2023). Because of these multiple challenges, many central banks around the world are currently studying the feasibility and consequences of CDBC. Some central banks have already begun pilot projects or experiments to assess the potential impact of CDBC on their financial systems and economies.

2.4 What Are the Conditions for Switching to CDBC

Central banks issue digital currency called CDBC, also known as Central Bank Digital Currencies. Since each central bank has its own regulatory framework and monetary policy, the specific conditions for switching to CDBC may vary from one country to another. Dionysopoulos, L., Marra, M., and Urquhart, A. (2023). However, here are a few general conditions that might be necessary to move to CDBC: First of all, a precise assessment of the benefits and risks is required. In fact, before moving to CDBC, a central bank should carefully assess the benefits and risks associated with issuing digital money. Morales-Resendiz, R., et al. (2021). Secondly, a state-of-the-art technological

infrastructure must be put in place, since in order to issue and manage CDDBs efficiently, a central bank will need to set up a secure payment platform, implementing advanced security protocols and guaranteeing high system availability. Hu, S. (2022). The regulatory and legislative framework is paramount, before the launch of central banks' digital currency, in fact it is necessary to draw up appropriate laws and regulations to govern the issue, distribution and use of CDDB. The new regulations must take into account issues relating to the governance of digital money, as well as all aspects of consumer protection, the fight against money laundering and the financing of terrorism; Radic, et al. (2022). Central banks will need to work closely with financial institutions and payment service providers to integrate CBDs into the existing financial system. This could involve partnerships with commercial banks, financial technology companies and other industry players. Hoang, Y. H., Ngo, V. M., and Vu, N. B. (2023). It is important to note that CDDB is a relatively new and rapidly evolving field, and the specific conditions for its adoption may change over time. Countries considering moving to CBDs will therefore need to take into account their own economic, regulatory and technological context to determine the appropriate conditions for their implementation.

2.5 The Impact of CDDB

2.5.1 Impact on Households

Central bank digital currencies (CBDs) can affect people's daily lives in a number of ways. Firstly, they could enable faster, safer and more efficient payments and transactions. People could pay for goods and services online, make instant money transfers and carry out international transactions more easily, without going through financial intermediaries. This could make everyday transactions easier and cheaper. Hoang, Y. H., Ngo, V. M., and Vu, N. B. (2023).

2.5.2 Impact on Banks

You might wonder what the banks would do if you had a CBD, since the household has an account with the central bank and no longer needs a bank account. But banks have the advantage of having a much better understanding of their customers' needs and desires than the central bank. Ozili, P. K. (2023). As a result, they can be much more innovative when it comes to services related to the use of money. A bank could distinguish itself through various financial services such as a particularly useful mobile banking platform, new mobile payment methods, investment advice or a trading platform. But it must also be recognized that the banks' essential role as lenders would be under threat. To understand why this is the case, we need to know how banks lend today. Demertzis, M., and Martins, C. (2023).

2.5.3 Impact of CBDs on the Economy

If a significant number of the bank's customers decided to hold a CBD instead of having a bank account as they do today, the bank would have less capital to lend, which in turn would make lending more expensive and potentially even unviable. Wilmer, W. (2023). The implication is that a rash implementation of the CBD without mitigating

measures could have a negative effect on the economy. This is probably one of the main reasons why central banks have not yet jumped at the chance to create a digital currency that would be legal tender, but are conducting analyses on how best to solve the problem.

3 Conclusion

Payment behavior is changing, and cash is being used less. To keep pace with these changes in society, improve the efficiency of payment systems and remain competitive, central banks are exploring the potential of innovative technologies by creating their own CBDC digital currencies. The aim of creating a CBDC is not to replace paper money, but to offer an alternative. Presented in the form of a digital token, it provides solutions to societal issues such as financial inclusion, by democratizing access to the financial system for 'unbanked' populations with access to mobile telephones, whose networks are much wider in scope than those with access to banking services. Today, most central banks are working on CDBC projects, and the proliferation of CDBCs will transform the current global monetary system. The new virtual money will give firms and citizens direct access to a digital currency whose value is backed by central banks. The financial sector, and in particular the banking sector, will be clearly impacted, as the latter plays an intermediary role between central banks and businesses in the areas of investment and savings. For firms, this new currency could have an impact on the treasury strategies of finance departments and present opportunities for integrating payment systems with ERP packages. The overall benefits would be significant: cheaper and faster digital payments, more transparency about how your money is used and the ability to make a conscious choice about the risks you want to take for which payment. Digital currencies may present a number of challenges for central banks, particularly in terms of monetary control and financial stability, since consumer protection and competition from commercial banks will be at stake. Digital currencies are likely to increase the efficiency of the payment system. But as far as the savings and credit system is concerned, digital currencies run the risk of weakening the role of commercial banks as intermediaries. Ultimately, everything will depend on the competitive nature of the banking sector. Governance issues will also arise if central banks take a more active role in granting credit to the real economy. As for the objective of maintaining price stability, this could be threatened in developing and emerging countries by a possible flight to virtual currencies. Industrialized countries, on the other hand, would be less affected by this phenomenon. Finally, guaranteeing financial stability is also an issue, as digital currencies could put pressure on central banks in their role as lender of last resort.

Our research has contributed by presenting the challenges of these new digital currencies, and studying the impact that this new currency will have on households, commercial banks and the economy in general. It should be emphasized that CDBCs are a relatively new and rapidly evolving field, and the conditions for adoption may change over time. Thus, in determining the appropriate conditions for their implementation, countries considering moving to CDBCs will need to take into account their own economic, regulatory and technological context. The limit of our study, is that we presented our concepts theoretically only, and for future implication we look forward to further empirical investigation into the impact of these new digital currencies on attributes such as credit and the evolution of cross-border transactions.

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Police Professionalism Branding on Youtube Account @86CustomProtectionNET

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Abstract. This research employs the utilization of program 86 broadcasts, accessible on the popular online video-sharing platform Youtube, specifically on the channel named @86CustomProtectionNET, as a means to explore the strategic implementation of branding by the Indonesian National Police (Polri). In order to enhance the public's perception of the esteemed Polri institution and restore the confidence of the populace, NET-TV has ingeniously devised Program 86. The present study employs a data collection methodology that encompasses observation and documentation techniques. The chosen research methodology is qualitative in nature, specifically utilizing a qualitative descriptive and content analysis approach. The latest and most popular videos from @86CustomProtectionNET's YouTube channel were chosen for data collecting. This study analyzes broadcast content and viewer responses. The video under analysis was released on March 17, 2023, and has 1,292,731 views. The present study examines the content disseminated on the @86CustomProtectionNET Youtube channel, focusing on the videos showcasing the professionalism of the National Police in addressing a wide range of criminal activities, including drug offenses, assaults, brawls, wild racing, poor driving habits, and natural disasters. The 86 broadcast program represents a strategic public relations maneuver aimed at cultivating public trust and garnering support through the demonstration of adeptness.

Keywords: Branding · Professionalism · Police · Social Media · Youtube

1 Introduction

Many nations have struggled with police trust. The police, an essential part of government, uphold social norms, promote order, and protect the public from crime and violence. Police misconduct, brutality, and corruption have eroded public trust in law enforcement. Many law enforcement agencies have implemented various tactics to restore public trust, including increased training and public relations efforts. This study evaluates Polri's YouTube channel @86CustomProtectionNET's public relations effort. This study demonstrates Polri's (Indonesian National Police) proficiency in crime control and socioeconomic issues.

Despite these efforts, more research is needed to see if this will restore public trust in police enforcement. This study examines the branding practices of Polri institutions, notably the 86 program, to fill the gap. This study collects data using qualitative descriptive methods, content analysis, observation, and documentation. These methods were chosen because they gather extensive and nuanced data, allowing a complete topic analysis. The study uses these varied methodologies to analyze the data thoroughly and rigorously, improving the validity and dependability of the conclusions. This study examines how law enforcement officers handle drug-related offenses, physical assaults, altercations, illicit racing, vehicular malfeasance, immoral behavior, and natural disasters. This study shows how the 86 program builds public trust in the police.

Institutions can also brand. Polri, the Indonesian National Police, is one of the most notable institutions that uses television and social media branding strategies. This institution itself brands using TV and social media. The program's transmission on NET-TV raises several questions about Polri's objectives. This premise, along with other factors, aims to change the police force's negative image, which has been shaped by incidents like the Ferdi Sambo homicide case, online gambling, the Tedy Minahasa drug incident, and the Kanjuruhan tragedy.

The research problem pertains to the strategies employed by the Indonesian National Police (Polri) in establishing the "Professionalism" brand on their Youtube account, namely @86CustomProtectionNET. The study is organized into several sections, including the following: Title, affiliation of the author's institution, Abstract, Introduction, Literature Review, Methodology, Findings and Discussion, Conclusion, Acknowledgments, and References.

2 Literature Review

To effectively categorize research endeavors within a cohesive framework, it becomes imperative to ascertain the underlying paradigm, theory, thematic unity, and methodological similarities a priori. By establishing these fundamental aspects, it becomes possible to discern the degree of similarity between studies, thereby facilitating a comprehensive classification system. Several previous investigations have been conducted in a similar vein.

The social media influencer value model explains advertising value and source trustworthiness. These characteristics greatly affect followers' confidence in influencers' branded postings. Trust in influencers' branded postings affects followers' brand awareness and buy intentions [1]. Micro celebrities' brand experience-creating power has not been extensively researched. This component has gotten little consideration despite their promise. This study found that followers trust and like micro celebrities, but they engage little with the brand. The data show that people trust and like micro celebrities after their first exposure [2].

Customer experience, identity, and loyalty to tourism destinations are affected through consumer engagement. Customer contact factors that improve customer experience, identity, and behavior [3]. Celebrity endorsement boosts commercial marketing. Celebrity endorsements have increased sales by raising awareness of companies' products and services. This study suggests that shoppers are more likely to notice celebrity

endorsements than non-celebrity ads [4]. Polish police are being recruited in order to alleviate human resource shortages. This study investigates police attractiveness from an economic, developmental, and psychological standpoint. The article defines the police as an employer by using brand connotations [5].

Impact of brand familiarity, perceived service quality, brand image, and student happiness on private tertiary education. The findings show that brand familiarity and perceived service quality positively affect brand image and student satisfaction. These findings can help private higher education institutions create efficient marketing strategies to boost student happiness and brand image [6]. There are concerns with police and wayang image. Police branding using traditional art performances and wayang stories has both entertained and encouraged young students [7].

Branding has helped private enterprises, but not the Zimbabwean state, especially the security services. The media and people view Zimbabwean police as crooked, nasty, and responsible for city accidents. The poll ranks ZRP Brand first in anti-corruption, PR, and citizen security. ZRP's identity, image, and reputation will improve by rebranding officer behavior [8]. Jakarta startup entrepreneurs compete for market share, prompting social-media branding. Brand recognition can be increased using social media and product signs. Repeating similar messages with different content can enhance brand identification and memory [9].

Cities fight to attract tourists, investors, and good reputations. City branding improves a city's image and distinguishes it as a destination. The study found that community involvement boosts Bandung city's branding. Local culture and people helped Bandung become a dynamic city. Bandung's creative city distinguishes it from other Indonesian and Southeast Asian cities [10]. Strategic planning and brand development drive Aimer's success. The executive team strategizes and executes Aimer's business development. Aimer does well on all dimensions of its analytical framework except Brand-Signature (Cultural Dimension). The insights help Chinese garment makers create brands and multinational corporations compete in China [11].

3 Methods

The methodologies employed for data collection encompassed the utilization of observation and documentation techniques. The data collection technique entailed purposefully selecting the most recent and most viewed clips from the YouTube channel @86CustomProtectionNET. This study aims to conduct an analysis of both the content presented in the broadcast and the comments provided by the audience (followers). The data under analysis pertains to a video that was publicly aired on March 17, 2023, and has garnered a total of 1,292,731 views.

The present study employs observational methodologies to examine phenomena within the researcher's immediate surroundings, encompassing the meticulous examination of 86 social media programs alongside an extensive analysis of diverse online sources of relevance. This research focused on the examination of three key entities, namely the law enforcement agency, the public relations division of the Indonesian National Police (Polri), and the production team of the renowned television program "86" aired on Net-TV. The focus of this study pertains to the branding strategy implemented by the Indonesian National Police (Polri) through the 86 program.

4 Results and Discussion

The best thing about advertising today is that new technologies are making advertising cheaper, making marketing easier. Experiential Marketing gives real-life experiences that customers find intriguing while focusing on the product. The basic goal of marketing is to inform clients about the brand and product. Marketers assist customers learn about the product and participate in advertising by doing this. To define experiential marketing, HubSpot describes marketing technology that invites clients to collaborate with real-time resources. This is dubbed “engagement marketing” since customers participate directly. Using experiential marketing, assists the customers to increase brand awareness about the advertisement and the brand. The first vital thing is that the engine company would catch the focus of the media [12].

It is very nice to have the correct unpaid coverage of media for the branding and the marketing and it is a highly efficient technique to give the knowledge about the goods without even paying for the advertisement cost. Customers are increasingly drawn to commercials, which are becoming increasingly successful. The product branding became viral quickly, making it different from traditional marketing types. The firm or the markets can directly relate with the customers by approving the experiences and aids in engagement with the brand, which helps the marketers to focus on the consideration. In this approach, the brand may stick to their particular clients by giving them the essential comfort and also aid the marketers to reach their intended aims.

Youth like NET TV. The presenter tells the news as he’s talking to friends. Several chat shows with popular music groups cover youth-related news in a humorous manner. By creating a YouTube channel, NET-TV expands its digital content business. Thus, fans can easily enjoy NET-TV programming online. Financial issues and program criticism plagued this TV station. Action-infused police performance. “86” is a documentary-style reality show that records the actions of police officers as they enforce traffic laws, raid drug deals, casinos, and illegitimate-couples.

This program originally broadcast in prime time with other NET flagships, including “Tonight Show” and “Ini Talkshow”. However, according to the official NET schedule, “86” was aired at 23.00 WIB, probably because of a KPI (Indonesian Broadcasting Commission) protest for airing child-unfriendly scenes at prime time. Episode “86” features three sorts of police task forces and their “maintaining public order” tasks lasting 45–50 min. Each task force has its own phases, starting with an introduction (description of the task force, operations, and aims), conflict (police action scenes), and conclusion (occasionally with a moral).

To examine the reality show “86” on NET-TV as instructive and instructional television. The research focuses on the program’s role in informing viewers about the Indonesian police force’s many duties. This study project provides a unique opportunity to view field events and extensively document law enforcement actions. It also sheds light on police officers’ deep familial relationships, revealing hitherto unknown aspects of their personal lives. “An Analysis of the Indonesian Police’s Operational Scope: A Comprehensive Examination of Activities Ranging from Traffic Regulation Enforcement to High-Stakes Criminal Investigations,” examines the Indonesian police force’s diverse operations.

Wide range of Indonesian police activities, from routine traffic control to complex and serious criminal cases. The inspirational and educational network NET TV is airing “86” to help people comprehend and evaluate government policies. NET-TV hopes the “86” show will raise awareness of the need follow rules. The program promotes law enforcement respect and collaboration by fostering discipline in Indonesians. Thus, people are encouraged to self-reflect and change, which improves social discipline. Reality shows, according to Vivian, feature non-actors who follow predefined plots. Authored by producer. Reality programs, situation comedies, episodic dramas, soap operas, quiz shows, and late night shows form a separate type of television entertainment [13]. Reality shows reflect real-life scenarios with interpersonal conflict, competitive dynamics, and relationship dynamics.

This research’s institution image:

- (1) Personality refers to the aggregate traits and features that constitute the police institution in society as a government agency that enforces state laws. In “86,” cops are shown as law enforcers who have the public’s trust. This illustration emphasizes the police’s duty to maintain order and safety. Polri, the Indonesian police, sees itself as a community guardian, defender, and servant. Polri maintains community relations while implementing the law professionally and proportionally. The institution upholds the rule of law, human rights, security and order, and internal security in a democratic nation and wealthy community. The Big Indonesian Dictionary (KBBI) defines professionalism in this academic paper. It states that professionalism applies to activities that are closely related to a profession or require specialized skill to perform remunerative duties [14].
- (2) This study evaluates reputation in the popular series “86,” focusing on the law enforcement agency’s success in enforcing traffic laws and apprehending drug traffickers. The report also notes the recent rise in public discourse about motorized *begals* or motorized robbers.
- (3) This study investigates the “86” programs value factors and their conformity with the police’s Vision and Mission, which police officers diligently uphold. This study investigates how a community-oriented organization protects and serves the community. It examines the organization’s proactive and preventive community protection, services, and guidance. It also examines the organization’s commitment to security, public order, and social norms.
- (4) Corporate identity includes features that help target audiences recognize a company. Logos, colors, uniform and slogans are examples. This study examines image congruence and corporate image enhancement. This study investigates variegated pictures in the context of program “86,” which promotes the police institution’s corporate brand. This includes logos (Fig. 1), police uniforms (Fig. 2), and brand names (Fig. 3). The study examines this multimodal visual depiction to illuminate the police institution’s public image. The following discussion illustrates an introduction segment from the “86” program.

Exploring “86” s multidisciplinary significance police officers use the lexical entity “86” to communicate. This code, means “tau-sama-tau” or “you both understand,” aids communication. A law enforcement “professional” has formal training and extensive



Fig. 1. Logo Attributes. Source: <https://polri.go.id/arti-lambang>



Fig. 2. Uniforms of the Front-Liners. Source <https://www.youtube.com/@86CustomProtectionNET/about>



Fig. 3. Slogan and Brand Name. Source <https://www.youtube.com/@86CustomProtectionNET/videos>

experience. They maintain legal order, protect public welfare, and provide community service in accordance with human rights and legal statutes. Law enforcement professionals must do their tasks efficiently, ethically, and impartially without discrimination or bias. This task requires a deep understanding of legal principles, excellent problem-solving skills, strong communication skills, and the ability to work well under pressure.

Professionalism requires law enforcement officials to follow a code of ethics in their personal and professional lives. Honesty, integrity, confidentiality, respect for individual rights, and wise use of force are examined in this dialogue. The Indonesian National Police (Polri) defines professionalism as the organization’s unwavering commitment to following these standards in their operations, which inspires public trust. In modern culture, police serve as community guards and stewards. Law enforcement officers’ professional duties include building strong community bonds, protecting and promoting human rights, and contributing to society’s well-being and security.

This analysis examines the broadcast “86” through the lens of police professionalism, showing how law enforcement officers demonstrate commendable competence and responsibility in their duties, earning the public’s trust and confidence. This statement

emphasizes law enforcement's duty to protect the community and enforce laws fairly and impartially. The Indonesian Police's goal is to be skilled law enforcement officers that stay close to the community.

"Begini Lah... Kalo Udah Ketangkep Ujung-Ujungnya Saling Menyalahkan & Nangis" (Here's The Way... If You've Been Caught In The End, Blame Each Other & Cry) was a @86CustomProtectionNET video [15]. This video was uploaded on March 17, 2023, and has been viewed 1,284,151 times. Aipda Ambarita, a police officer, is featured in this video. Aipda Ambarita is revered by his peers and admired by the public (Fig. 4). The individual has a strong somatic constitution, is firm, and exudes authority and levity in all behaviors. This discussion discusses how the criminal justice system treats criminals, focusing on protocol and humane treatment. Law enforcement agents avoid strong, emotional responses when dealing with offenders. These cops follow police force-standard arrest procedures.



Fig. 4. Ambarita treats the perpetrators of the brawl like his own child. Source: <https://www.youtube.com/watch?v=m5ymPIeQRbo&t=658s>

The “86” police officer Mr. Ambarita’s actions are examined in this investigation. This inquiry illuminates professionalism in the acclaimed Indonesian National Police. The comments made by @86CustomProtectionNET followers and the audience’s positive response to Mr. Ambarita’s inclusion in the 86 programs show the community’s need for a trustworthy police officer. The community eagerly awaits Mr. Ambarita’s professional conduct in future episodes.

This study examines Aipda Ambarita Monang Parlindungan, a respected law enforcement officer who has appeared on @86CustomProtectionNET. This channel hosts a variety of law enforcement agencies operations and community involvement. Officer Ambarita shines in this setting. Officer Ambarita is revered for his powerful physique, unwavering commitment to legal statutes and social peace, and ability to balance authoritative behavior with amusing joking. His dedication to following proper apprehension procedures and his kindness toward criminals make him a model law enforcement officer. Law enforcement values these traits, which boost community trust and public safety.

Officer Ambarita represents the Indonesian National Police's core values and ethos, inspiring public awe. Public approval could boost the police force's image. The followers of @86CustomProtectionNET show strong support for officer Ambarita and a desire for his future engagements. The current public involvement shows how these platforms shape collective sentiment and foster peaceful interactions between law enforcement organizations and the society they protect. Officer Ambarita's dedication to professionalism and unique personality inspire his coworkers, raising the Indonesian National Police's service level.

5 Conclusion

The Indonesian National Police (Polri) shows how corporate identity goes beyond logos, uniforms, and color palettes. This study explores institutional self-presentation, including activities, values, and public communication techniques. "86" shows law enforcement officers enforcing traffic laws, arresting drug dealers, and responding to motorized robberies.

The Indonesian National Police (Polri) efficiently conveys its core values and goals to the public. These include community protection and support, proactive and preventative counseling, and society's security and harmony while preserving norms. The Indonesian National Police program shows its commitment to law enforcement, public service, and community well-being. Officers' clothing symbolizes power and ideals. The public becomes familiar with law enforcement through its visual depiction and nomenclature. These elements form Polri's corporate identity.

"86"'s representation of police officers performing their tasks with skill and professionalism helps the public view the police as a trustworthy institution. Polri's reputation as a skilled law enforcement agency dedicated to legal principles and society's betterment may be strengthened by the above phenomenon. Thus, a police institution's corporate identity goes beyond visual symbols to include values, behaviors, and communication techniques that distinguish it from other institutions.

The study reveals that the Polri institution, in collaboration with the production team of the program "86", has endeavored to cultivate a favorable perception by means of a reality show. This program showcases authentic occurrences involving patrol teams of police officers as they address prevalent criminal issues in major urban areas.

The anticipated outcome of this study is to make a valuable contribution to the advancement of marketing communication theories, branding theory, and public relations tactics in the realm of social media management. One weakness of this study pertains to its exclusive focus on the Polri institutional branding approach, specifically in relation to the establishment of public trust, interactive communication, and emotional attachment through the utilization of reality shows. This study does not investigate the efficacy of broadcast "86" in enhancing public trust, contentment, and evaluation of the Republic of Indonesia Police's performance.

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A Comprehensive Framework, Review for Virtual Reality to Unlock Their Marketing Potential

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Abstract. Technologies for creating immersive and engaging customer experiences using virtual reality (VR) have emerged as a potential new sector in marketing. This study report offers a thorough methodology and analysis to maximize VR's marketing potential. The article's introduction explains VR, its essential components, and the various VR technologies and devices available today. The use of VR in marketing is then explored, with successful case studies, problems, and limits highlighted. The framework for using VR in marketing provides guidance on establishing precise marketing goals, building immersive experiences, integrating VR with other channels, using user-generated content, and assessing the success of campaigns. The production of VR content, user engagement, accessibility, and cooperation with VR developers are all covered, along with best practices and suggestions. This research examines consumer feedback and engagement indicators concerning the efficacy of VR marketing initiatives. In VR marketing, possible challenges and chances for innovation are also examined. In conclusion, this article emphasizes how virtual reality (VR) has the potential to transform marketing tactics by producing fresh and engaging customer experiences.

Keywords: Customer Engagement · Emerging Technologies · Immersive Experiences · Marketing · Virtual Reality

1 Introduction

Marketing has evolved with digital ICT, leading businesses to collaborate more with clients in digital marketing endeavors (Kannan and Li, 2017). E-commerce, a significant offshoot, utilizes electronic media, especially the Internet, revolutionizing buying and selling (Dennis et al. 2004). The term Extended Reality (XR) encompasses emerging

technologies like VR, AR, and MR. While VR offers complete digital immersion, AR adds virtual elements to reality, and MR merges both for interactive experiences (Nguyen et al. 2016). Recognizing XR's potential, e-retailers are moving towards "v-commerce," providing immersive customer experiences akin to physical stores. XR's benefits span various fields, from education to health (Fox et al. 2009; Teo et al. 2016; Bruer, 2008; Chicchi Giglioli et al. 2017; Alcaiz et al. 2018). Yet, literature on XR's marketing applications remains fragmented. This study aims to provide a comprehensive framework for virtual reality in marketing, underscoring the global virtual reality industry's growth.

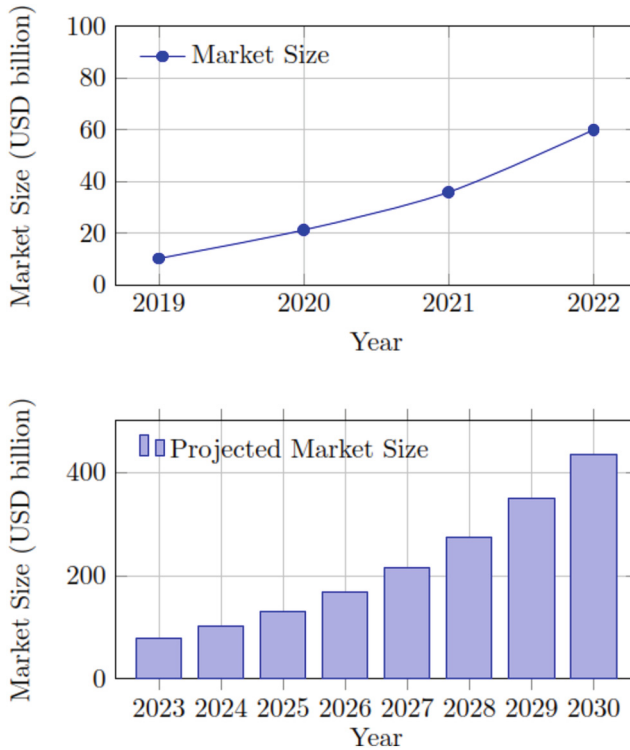


Fig. 1. Virtual Reality Market Growth (Sources: Grand View Research Report)

In accordance with a recent analysis by Grand View Research, the global VR market exhibited remarkable growth trends in Fig. 1. Starting at a valuation of USD 59.96 billion in 2022, it is projected to surge to USD 79.36 billion in 2023, with expectations soaring even higher to reach USD 435.36 billion by 2030. This astounding trajectory, characterized by a robust CAGR of 27.5% from 2023 to 2030, reflects the rapid evolution of VR technology. Notably, the Asia Pacific region assumed a pivotal role in this market, commanding a substantial 39.9% share in 2022. This dominance was propelled by a confluence of factors, including significant technological advancements and proactive government initiatives.

Against this backdrop of burgeoning growth, this article embarks on a journey through the immersive world of Virtual Reality (VR) and its transformative impact on marketing strategies. Our objective is to illuminate the foundational concepts of VR, investigate its multifaceted applications in marketing, and furnish a strategic roadmap for unlocking its full potential. As we navigate the immersive terrain of VR marketing, we will not only uncover compelling case studies illustrating its successes but also grapple with the formidable challenges it presents. Furthermore, we will propose a comprehensive strategic framework designed to facilitate the effective integration of VR within marketing campaigns. Beyond this, our exploration will extend to the horizon of VR's future prospects, innovation pathways, and the potential ethical concerns that may accompany its proliferation.

2 Objectives

- Understand VR in modern marketing.
- Evaluate VR's impact on consumer engagement.
- Develop a structured approach for VR integration.
- Address challenges and ethical concerns of VR in marketing.
- Explore emerging VR technologies for marketing innovation.

3 Research Methodology

We exclusively utilize existing secondary data. We conduct a comprehensive literature review, analyzing VR's marketing evolution, consumer impact, and challenges. We source data from reputable sources to identify 2023's successful VR marketing campaigns and trends. Based on this data, we build a VR marketing framework, assess its effectiveness through real-world campaigns and engagement metrics, and offer content creation, inclusivity, and collaboration recommendations. Finally, we discuss future VR marketing trends and challenges based on industry forecasts and expert insights in secondary sources, concluding by highlighting VR's marketing significance and future potential.

4 Understanding Virtual Reality

4.1 Definition and Basic Concepts of VR

VR's definition has shifted from a technology focus to emphasizing "telepresence" or the sensation of being in a virtual space (Steuer, 1992). Initially used for training, its essence is now about the user's immersive experience. Brooks (1999) and Berg and Vance (2016) described VR as an environment for interactive, real-world-like interactions. Today, VR is an immersive platform that mirrors reality through dynamic, multi-sensory engagements.

4.2 Key Elements of a VR Experience

VR headsets, or Head-Mounted Displays (HMD), offer immersion by adjusting visuals based on user gaze. Motion Tracking enhances interaction by mirroring user movement in the Virtual Environment, filled with vivid visuals and sounds. Interactivity is boosted by devices like gloves, and positional audio adds realism. Real-time Rendering ensures smoothness, an intuitive interface offers control, and compelling content captivates users. As VR evolves, experiences will intensify.

4.3 Types of VR Devices and Technologies

Virtual Reality (VR) has become a game-changing technology that fully immerses users in virtual environments and activities. Consumers and organizations alike have a variety of alternatives to explore this fascinating area because of the extensive range of VR devices and technology now on the market. The essential features, platforms, and tracking techniques of several VR devices and technologies are described in this section.

Table 1. Types Of VR Devices and Technologies

Device/Technology	Description	Platform	Type	Tracking
Oculus Rift S	High-quality PC-powered VR headset with inside-out tracking	Pc	Tethered	Inside-Out
HTC Vive Pro	Premium PC VR headset with excellent tracking and visual fidelity	Pc	Tethered	Base Stations
PlayStation VR	VR headset for PlayStation 4 and PlayStation 5 consoles	Ps4/Ps5	Tethered	Camera-Based
Oculus Quest	Standalone VR headset with inside-out tracking and no PC/console required	Standalone	Standalone	Inside-Out

(continued)

Table 1. (continued)

Device/Technology	Description	Platform	Type	Tracking
Oculus Quest 2	Improved version of Quest with higher resolution and performance	Standalone	Standalone	Inside-Out
Valve index	High-end PC VR headset known for exceptional tracking and controllers	Pc	Tethered	Base Stations
Windows Mixed Reality	A range of VR headsets options and collaborations with Microsoft	Pc	Tethered	Inside-Out
Pico Neo Series	Standalone VR headsets catering to consumer and enterprise markets	Standalone	Standalone	Inside-Out
Samsung Gear VR	Smartphone-powered VR headset development in partnership with Oculus	Samsung Smartphones	Smartphone-Powered	External Sensors (Phone)
Google cardboard	Simple and VR viewer made from cardboard, power by smartphones	Android, iOS Smartphone	Smartphone-Powered	External Sensors (Phone)
Microsoft HoloLeans	Augmented reality (AR) headset providing mixed reality experiences	Window PC	standalone	Inside-Out + External Cameras

(continued)

Table 1. (continued)

Device/Technology	Description	Platform	Type	Tracking
Magic Leap One	AR headset offering mixed reality experiences and spatial computing capabilities	Standalone	standalone	Inside-Out + External Cameras

Table 1 showcases diverse VR devices. Oculus Quest is portable, Oculus Rift S pairs with powerful PCs, and Google Cardboard brings affordability. Microsoft HoloLens merges VR with reality. The ideal device varies based on need and tech readiness. VR serves multiple sectors, from gaming to marketing. Staying informed is key to harness VR's evolving potential.

4.4 A Comparative Timeline of Virtual Reality in Marketing (VEM)

Virtual Reality in Marketing (VEM) has become a game-changing technology for businesses to interact and engage with consumers in immersive ways. From 2D web interfaces to the emergence of 3D and immersive experiences employing Virtual Reality (VR) and Augmented Reality (AR) technology, VEM has seen a tremendous transformation throughout time. Table 2 examines the significant advancements in VEM and how they affect marketing tactics and consumer experiences.

Table 2. A Journey through the Evaluation of Virtual Reality in Marketing (VEM)

Time Period	Key Developments	Impact on VEM
1980–1985	- 2D Web interfaces for virtual 2D stores	Initial exploration of VEM
1985–1990	-Emergence of 3D web interfaces	Positive influence on brand attitude, product knowledge and purchase intention
Early 1990s	- Introduction of VR and AR with mobile and HMD interfaces	New possibilities for VEM in retail and optimization of supermarket redesigns

(continued)

Table 2. (continued)

Time Period	Key Developments	Impact on VEM
2000s	<ul style="list-style-type: none"> - VEM in Second Life - Augmented reality advancements (fish tank displays) - VR for interactive product demonstrations and showrooms 	<ul style="list-style-type: none"> Expanded advertising and marketing research Opportunities Pushing digital interaction with consumers and in-store use of AR Enhanced customer engagement and brand loyalty
Early 2010s	<ul style="list-style-type: none"> - Growth of non-immersive VR experiences - Rise of affordable VR headsets and mobile VR apps 	<ul style="list-style-type: none"> Insightful studies on consumer responses to 3D virtual stores Widespread adoption of VR marketing campaigns
2015s	<ul style="list-style-type: none"> - Advent of immersive VR interfaces (cardboard setups) - Introduction of MR (Mixed Reality) - Brand leveraging MR for interactive experiences 	<ul style="list-style-type: none"> New possibilities and opportunities for VEM Potential for quality consumer behavior research Blurring lines between physical and digital shopping environments
2020s	<ul style="list-style-type: none"> - Mainstream adoption of VR and AR in Marketing - AR-powered mobile apps for virtual product trials 	<ul style="list-style-type: none"> Engaging and immersive experiences for consumers Boosting customer confidence and reducing returns

Table 2 summarizes VEM's growth, emphasizing key milestones. Shifting from 2D to immersive VR changed customer engagement. Integrating VR/AR with marketing boosted loyalty and trust. VEM's role will expand, bridging physical and virtual commerce as tech evolves.

5 Virtual Reality in Marketing

5.1 Applications of Virtual Reality (VR) in Marketing

The usage of virtual reality (VR) technology in marketing is growing, fundamentally altering how companies interact with their clientele. Due to its ability to bridge the gap between offline and online engagements, virtual reality (VR) can potentially boost consumer engagement, brand visibility, and income. This article examines the many virtual reality marketing applications and their effects on consumer engagement and behavior.

Applications of VR in Marketing

VR-powered virtual shopping offers customers immersive 3D storefront experiences, enhancing product interaction and boosting conversion rates (Li et al. 2003). This depth of interaction minimizes post-purchase regret (Daugherty et al. 2008). Industries, like automotive, present virtual showrooms, erasing location barriers (Nguyen et al. 2016).

Moreover, VR deepens brand storytelling (Kaplan and Haenlein, 2009a) and enables limitless virtual events (Kaplan and Haenlein, 2009a). Additionally, VR revolutionizes market research by simulating real shopping scenarios, providing richer consumer insights (Daugherty et al. 2008).

Impact of VR on Consumer Behavior and Engagement

VR is reshaping marketing, offering immersive customer experiences and elevating brand perception (Violante et al. 2019). VR content on social media captures users, enhancing receptivity to marketing (Farah et al. 2019). Its genuine feel builds emotional ties, boosting loyalty (Hudson et al. 2019). With applications from virtual showrooms to research, VR's impact on marketing and sales is clear.

5.2 Examples of Successful Virtual Reality Marketing Campaigns in 2023

The evolution of virtual reality (VR) technology lets companies offer consumers immersive experiences. Forward-thinking businesses use VR to boost their marketing campaigns, enhancing customer engagement, increasing brand recognition, and positively impacting sales.

Table 3. Successful Virtual Reality Marketing Campaigns In 2023

Campaign	Description	Success Factors
Adidas: VR Running Experience	An immersive VR campaign showcasing Adidas' running shoes and performance features. Users can choose different terrains and run at their own pace	Significant increase in desire to purchase Adidas running shoes. Innovative use of VR technology. Recognized with marketing awards
IKEA: VR Home Design	Allows users to design and furnish virtual rooms using IKEA products	Significant increase in desire to purchase IKEA products. Innovative use of VR technology. Recognized with marketing awards
Cola: VR Christmas Experience	A magical winter wonderland VR experience with interactive activities	Significant increase in emotional Connection to Coca-Cola brand. Innovative use of VR technology. Recognized with marketing awards
Red Bull: VR Extreme Sports	Immersive VR experience offering extreme sports activities like snowboarding and skateboarding	Significant increase in emotional connection to Red Bull brand. Innovative use of VR technology. Recognized with marketing awards

(continued)

Table 3. (continued)

Campaign	Description	Success Factors
McDonald's: VR Kitchen Experience	Provides an interactive behind-the-scenes view of McDonald's kitchen operations	Significant increase in trust and appreciation for the McDonald's brand. Innovative use of VR technology. Recognized with marketing awards
Airbnb: VR Travel Experience	Allows users to explore different travel destinations and book accommodations	Significant increase in desire to travel and appreciation for the Airbnb brand. Innovative use of VR technology. Recognized with marketing awards
Ford: VR Test Drive	Offers an immersive test drive experience for Ford's latest car models	Significant increase in desire to test drive the actual car. Innovative use of VR technology. Recognized with marketing awards

Table 3 showcases the diverse applications of virtual reality in marketing and its potential to reshape brand-customer interactions. By leveraging VR, companies stand out digitally, build stronger customer bonds, and enhance brand perception. As VR evolves, it will significantly influence future marketing strategies, facilitating deeper connections with target audiences.

5.3 Challenges and Limitations of VR in Marketing

VR marketing offers immersion and engagement but has challenges (Kozin, 2016; Osten, 2015; Tribe, 2023; Miller, 2022):

- Cost: Expensive and tough for small firms (Tribe, 2023).
- Technical Issues: Latency and other issues disrupt user experience (Osten, 2015; Tribe, 2023; Miller, 2022).
- Skill Requirement: Need specific abilities for effective VR campaigns (Osten, 2015).
- Environmental Impact: Energy-intensive with e-waste concerns (Miller, 2022).
- Consumer Views: Hesitation due to unfamiliarity or safety/privacy concerns (Miller, 2022).
- Learning Curve: Users may struggle with VR devices, limiting reach (Sappington, 2018).
- Analytics: Hard to measure campaign success; needs new metrics (Sappington, 2018).
- Ethics: Privacy, data, and manipulation concerns (Sappington, 2018).

Businesses should weigh pros, cons, and challenges before adopting VR marketing.

6 Framework for Utilizing VR in Marketing

6.1 Setting Clear Marketing Objectives and Target Audience

Setting precise marketing goals and determining the target market is essential when integrating virtual reality (VR) into marketing strategies (Bonetti et al. 2018). The strategy can be directed specifically by stating the objectives of the VR marketing campaign, such as raising brand awareness, strengthening consumer involvement, or improving product comprehension. It is crucial to comprehend the target audience's demands, tastes, and behaviors to create VR experiences that effectively appeal to them.

6.2 Designing Immersive and Engaging VR Experiences

To grab customers' attention and provide memorable interactions, VR experiences must be designed to be immersive and exciting (Bonetti et al. 2018). A previous study has emphasized product selection, information richness, and perceived service quality that help users embrace virtual 2D stores (Lin and Lu, 2000; Liu and Arnett, 2000). Users may interact with the products in VR experiences by rotating them or zooming in and out, which increases user engagement and helps them comprehend the offers better (Zhang et al. 2004; Li et al. 2003; Daugherty et al. 2008).

6.3 Integrating VR with Other Marketing Channels

VR may significantly impact and reach a bigger audience when integrated with other marketing platforms (Bonetti et al. 2018). Marketers may develop a multifaceted marketing strategy that improves brand exposure and customer engagement by integrating VR experiences with social media campaigns, smartphone applications, or conventional advertising channels. For instance, utilizing influencers and marketing VR experiences through social media platforms may create buzz and entice consumers to explore the VR material, increasing brand awareness and customer conversions.

6.4 Leveraging User-Generated Content and Social Sharing

Modern marketing emphasizes user-generated content and social sharing (Bonetti et al. 2018). Embedding social sharing tools in VR allows users to post their experiences, enhancing brand visibility. By integrating gamification, like challenges, marketers can further drive active participation and amplify brand engagement.

6.5 Tracking and Measuring the Impact of VR Marketing Campaigns

To optimize VR marketing, it's vital to track and analyze its impact (Bonetti et al. 2018). Using VR-specific analytics, marketers can gauge user engagement, conversion rates, and brand perception. Metrics like time in VR, virtual item interactions, and click-through rates provide insights into user behavior. This analysis aids in assessing ROI, identifying challenges, and refining VR strategies, enabling marketers to deeply connect with audiences and achieve marketing objectives.

7 Reviewing VR Marketing Potential

To assess VR marketing efficacy, marketers should analyze specific elements, helping them refine future strategies. Considering VR marketing potential involves three key aspects.

7.1 Assessing the Effectiveness of VR Campaigns

Before launching VR campaigns, marketers should set clear objectives and KPIs. Whether the goal is to enhance engagement, boost sales, or increase brand visibility, quantifiable targets ensure precise performance measurement. Integrating analytics within VR apps allows data collection on user interactions and behaviors. By evaluating this data, marketers can pinpoint which VR components resonate most with users and align with their objectives.

7.2 Analyzing Customer Feedback and Engagement Metrics

To understand the VR marketing experience, it's vital to consider client feedback and engagement metrics. Embedding surveys in the VR app can collect user insights on preferences and satisfaction. Engagement metrics, like click-through rates and gaze tracking, highlight user interaction with content. Higher engagement indicates a successful and immersive campaign.

7.3 Identifying Areas of Improvement and Optimization

After analyzing VR campaign efficacy and client feedback, marketers can identify areas for optimization. Using data-driven insights, they can refine the VR strategies, adjusting content or user experience to better engage the target audience. Continuous adjustments enhance future campaigns. By evaluating VR marketing through campaign efficacy and engagement data, marketers can refine their approach, maximizing the potential of VR and achieving lasting brand impact.

8 Recommended Techniques and Strategies for VR Marketing

8.1 Key Considerations for VR Content Creation

Damiani (2018) stresses storytelling for engagement. Petersen et al. (2022) and He and Zhu (2022) emphasize interactivity and quality graphics. Kirchbach and Runde (2011) advocate for optimized cross-platform performance.

8.2 Strategies for Maximizing User Engagement and Interaction

Pardini et al. (2022) highlight personalization's role in brand affinity. Bucchiarone (2022) supports gamification for user activity, while Wei (2022) suggests social sharing for broader reach. CTAs in VR guide user actions.

8.3 Ensuring Accessibility and Inclusivity in VR Marketing

Ozdemir (2021) recommends multi-platform VR. Voice commands and multiple languages enhance accessibility. Kamińska et al. (2022) stress testing with a diverse user base for inclusivity.

8.4 Collaboration with VR Developers and Agencies

Choose experienced VR agencies and assess their portfolios. Wen and Gheisari (2020) stress clear communication, while Liston et al. (2012) endorse iterative content development.

9 Future VR Marketing Trends and Challenges

9.1 How Emerging Technologies Will Shape VR Marketing in the Future

Emerging technologies like 5G will refine VR, enhancing real-time interactions (Ethirajulu, 2020). AR's integration amplifies immersive marketing potentials (Baikulova and Suderevskaia, 2019). AI and Machine Learning, as noted by Haleem et al. (2022), promise personalized content, while haptic advancements suggest even deeper immersion (Sanfilippo et al. 2022).

9.2 Potential Difficulties and Moral Issues

VR marketing grapples with privacy and data issues, requiring transparency (Giarretta, 2022). Health concerns, like motion sickness, and content integrity are paramount (Spiegel, 2018; Kwon et al. 2021). Chong et al. (2021) underscore the significance of inclusivity as VR expands.

9.3 Opportunities for Creativity and Distinction

VR marketing offers immersive demos, potentially reducing returns (Choi and Lee, 2023), virtual events for broader reach (Capasa et al. 2022), enriched storytelling, and niche branding for targeted loyalty.

Harnessing tech advancements, ethical considerations, and creative tactics is key for VR marketing's trajectory.

10 Conclusion

This study examines the enormous marketing possibilities of Extended Reality (XR) technologies, with a particular emphasis on virtual reality (VR), augmented reality (AR), and mixed reality (MR). Through immersive experiences that resemble real-world settings, XR technologies enable engrossing user interactions. The study aims to present a thorough methodology and review for successfully integrating VR into marketing initiatives. It highlights the necessity for a methodical approach to comprehend XR's

applicability in marketing and provides insightful information for marketers. The VR industry is expected to increase significantly over the next several years thanks to government funding and technological breakthroughs. Understanding virtual reality includes its developing definition and the essential components of a VR experience. The article explores consumer behavior research utilizing MR while charting the development of VR interfaces and uses in marketing. The chapter finishes by showcasing the marketing possibilities of virtual reality, providing best practices, discussing difficulties and moral issues, and underlining the revolutionary effects of VR marketing on consumer engagement and brand relationships. Adopting cutting-edge technology and data-driven strategies may transform the marketing industry and produce one-of-a-kind experiences that encourage customers to stick with a brand over the long term.

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Finance in the Digital Age: The Challenges and Opportunities

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Abstract. The financial sphere has been experiencing an acceleration of technological innovations for years. In the medium and long term, the landscape of financial products and services is expected to change, notably due to new trends such as digitalization, big data, Blockchain, and crypto-assets. Disruption will affect financial products and services and disturb the various operators' value chains and business models.

Keywords: Financial technology · digitalization · financial industry · artificial intelligence

JEL: E44 · F65 · G2

1 Introduction

Traditionally, the functioning of the financial sphere has been affected by asymmetric information (Stiglitz and Weiss, 1981), agency problems (Coase, 1937; Jensen and Meckling, 1976; Fama, 1980; Fama and Jensen, 1983), and the management of incomplete contracts (Grossman and Hart, 1986; Hart and Moore, 1990). Today, digitalization is changing the game's rules in the markets and affecting the behavior of the various players. Thus, market participants and financial institutions must redefine their scope of action in the digital era. The digitalization of finance offers new opportunities that improve access to finance for companies and provide new possibilities for investors (Bolleart et al. 2021).

The technological revolution has had a multifaceted impact on the global economy and consumer lifestyles (Elena-Iulia, 2014). Indeed, with the widespread application and penetration of a new generation of science and technology, the global economy has entered the digital age (Chen and Zhang, 2021; More, 2023).

In this paper, we begin by presenting our research methodology. Secondly, we analyze the impact of digitalization on the financial sphere with its two branches, intermediated finance and market finance. Thirdly, we present the evolution of risk mapping. Finally, we extend our analysis to the constraint of sustainability in finance.

2 Methodology

The research methodology is based on a descriptive approach. A literature review is a popular approach in management research (Denyer and Tranfield, 2006) based on an extensive and in-depth understanding of the subject (Petticrew and Roberts, 2008). We examined relevant papers focusing on AI, innovation, and banks to do this. The search was primarily conducted in the databases Web of Science (WoS), Science Direct, Emerald, and MDPI, as well as on websites dealing with the issue. The study uses a qualitative method, and the research design entails arranging, collecting, and assessing data samples to get accurate research findings.

3 Digitalized Finance, from Constraint to Opportunity

Financial digitalization is a series of financial activities that rely on modern digital information as a carrier object. It aims to improve the financial intermediation system and market productivity and innovate business plans (Chen and Zhang, 2021). The creation and sharing of information technology have led to the emergence of a digitalized financial industry.

Digitalization is a complex process that was gradually imposed in the financial sphere as a constraint at first. The successive waves of digitalization have affected all the business lines of corporate finance, the world of bancassurance, and the financial markets. Of course, the impact remains differentiated, and digitalization only affects the financial sphere uniformly. From an imposed constraint, digitalization has been transformed into opportunities to achieve economies of scale and to concentrate activities on high-value-added tasks and operations.

3.1 The Changing Value Chains of the Financial Industry Through Digitalization

The digitalization experienced by the financial sector in recent years is expected to result in medium and long-term efficiency gains for the global economy and greater financial inclusion. According to the Global Findex database, between 2014 and 2017, more than 500 million adults worldwide opened an account with a financial institution or via a mobile banking provider. In 2017, the average global bancarisation rate was estimated at 69%, up from 62% in 2014 and 51% in 2011. However, significant differences between developed and developing countries persist. In high-income economies, 94% of adults hold an account, compared to 63% in developing economies (World Bank Group, 2018).

By reducing transaction costs in financial markets and bringing supply closer to demand, digitalization should result in lower production costs in the financial industry and, ultimately, lower prices for financial products and services. Digital transformation should also increase consumer satisfaction and well-being through access to various tailored financial services. Nevertheless, in the short term, digitalization would generate restructuring costs on the supply side and require consumer adaptation efforts.

The value chain of the financial industry has been completely disrupted by digital transformation and has to be restructured differently. Some authors believe that this is a wave of Schumpeterian creative destruction of unprecedented scale and speed (Della

Chiesa et al. 2019, p.32). The value chain of traditional financial players has led to outsourcing secondary and support activities. Technological constraints now impose the logic of outsourcing by using prominent technological players, the Big Techs. The traditional players in finance are de facto dependent on a small number of Big Techs. In addition to the risk of dependence to which the traditional players are individually exposed, there is also a systemic risk: the small number of Big Techs and their size are distinguishing factors of a potential systemic risk that could jeopardize financial stability and security.

The financial intermediation function traditionally performed by banks is no longer their primary source of value. Many financial market players, who until recently operated under the assumption of reduced informational efficiency, need help finding new sources of profit in the face of the Big Data phenomenon.

The digital transformation has led to new players, so-called pure players, whose business model is based on technology as a core value-generating activity. Traditional players have invested instead in restructuring the existing value chain by developing new technologies. This restructuring aims to achieve cost savings by internalizing only profitable activities.

For example, the wave of innovation by fintech was targeted at retail banking. Through a downstream transformation of the banking value chain, notably the customer experience, this first wave did not reach the corporate and investment banks (CIB). On the other hand, the second wave driven by blockchain technology mitigates the barriers to entry that have spared CIBs from competition from new entrants (Srivastava, 2023). Indeed, through consortia, Blockchain creates cooperation between banks (typical applications such as R3 and Digital Asset Holdings). Blockchain is a fundamentally disruptive technology for the entire financial system. In the medium and long term, it would result in a complete overhaul of the existing infrastructure. However, the various uses of Blockchain are still in the start-up phase.

3.2 The Digitization Initiated but not Completed of the Banking Business

Over the last few years, the banking sector has been in a race to become digital. Technological innovations have set the pace for the transformation of the banking sector. Gartner, (2019) illustrates these disruptive transformations. On the one hand, the Hype Cycle makes it possible to establish the phase in which each technology is located according to its degree of maturity. On the other hand, it allows us to identify the new technologies that would significantly impact the banking industry in the short and medium term. The Hype Cycle outlines the five phases emerging technology would have to go through before reaching the large-scale production stage.

1. Innovation trigger: This is the phase when a new technology or prototype is launched;
2. Peak of Inflated Expectations: User expectations are disproportionate and unrealistic in this second phase, characterized by media hype for the new technology. The new technology is exploited and disseminated by start-ups instead;
3. Through of Disillusionment: The products developed during this phase fall short of expectations, resulting in media disappointment with the new technology;

4. Slope of Enlightenment: The most persistent companies develop second-generation products and services during this phase. The new technology begins to find its way to the realization of these promises;
5. Success or Plateau of Productivity: In this last phase, the technology is mature enough to develop new, so-called third-generation products and services.

According to the Hype Cycle for Digital Banking Transformation, many technologies used in the banking sector are in the disillusionment phase, such as Blockchain in banking and investment services, the public cloud, or collaborative banking platform models. Only biometric authentication technologies are close to the mass production phase.

According to Gartner (2019), the priority matrix ranks new technologies in the banking sector according to three levels of expected transformation: low, moderate, and high, and according to three different time horizons: short, medium, and long term. Blockchain is expected to have a high transformational impact on daily consumption analytics within this framework in five to ten years. Biometric authentication models have a low transformational impact but with a shorter time horizon of 2 to 5 years. It should be noted that the priority matrix allows for the segmentation of technologies according to two criteria, namely their expected transformation impact and their degree of maturity.

3.3 Big Data Changes the Underlying Assumptions in Financial Markets

Digital transformation has reinforced the assumption of market transparency by significantly reducing transaction costs (Alchian and Demsetz, 1972; Coase, 1937 and 1984; Williamson, 1979). By increasing the amount of information available and facilitating its processing and analysis, digitalization has also changed traditional decision-making processes at both strategic and operational levels. Nevertheless, according to a survey conducted 2014 by Capgemini Consulting among more than 100 financial managers (CFOs), technological transformation is perceived as a decisive performance factor in French and European companies (Capgemini, 2015).

Transparency is a fundamental condition for the functioning of financial markets and the optimal allocation of resources. It translates into access for all supply and demand actors to instantaneous information without transaction costs. Consequently, prices on these markets must always incorporate all relevant information available on financial assets. According to the theory of informational efficiency (Fama, 1970, 1991 and 1998; French, 1980 and Grossman and Stiglitz, 1980), prices reflect the information derived from past events and the expectations of economic agents concerning future events. Asset prices are then equilibrium prices resulting from the confrontation of supply and demand and constitute a reasonable estimate of the intrinsic value. Informational efficiency is not an end but a prerequisite for the functioning of markets and the optimal allocation of resources.

Digital transformation is changing the game's rules in financial markets by strengthening the transparency requirement and lowering the barriers to entry. It is also reshaping the individual behavior of producers of financial services (banks, insurance companies, investment funds, pension funds, etc.) and consumers (companies, savers, individuals). The offer is diversifying, but it is constantly evolving. Some products emerge while others disappear. The life cycle dynamics of financial products and services are changing

rapidly. The number of mature or declining financial products is increasing. Substitute products are struggling to move out of the launch phase as some of the technologies associated with these products are still in the experimental phase.

Companies in the financial sector are investing in digital transformation to adapt to changing demands. Competition has become increasingly fierce, especially with the entry of new players, forcing traditional operators to make significant cost savings (Mavlutova et al. 2023). The sometimes unfair competition between traditional operators and new entrants to the financial sector is changing the game's rules in the market. While traditional operators, mainly banks, are subject to increasingly strict prudential regulations, including the Basel agreements, new entrants enter market segments characterized by a legal framework with relaxed rules.

Subject to the dual constraint of ever-increasing prudential and supervisory regulation and relatively heavy investment in technological transformation, traditional financial players are still looking for a new balance in the market. On the other hand, the new players, including fintech, benefiting from a clear comparative advantage in terms of technology and escaping the barriers to entry of the traditional players, are positioning themselves as leaders in the new financial market. The traditional players, aware of their competitive disadvantage, prefer, in some cases, to invest in strategies of imitating the new entrants by creating new autonomous entities operating in the new segments (Dinu et al. 2023).

3.4 Artificial Intelligence and Machine Learning Are Reshaping the Financial Sphere

Artificial intelligence (AI) is attracting increasing attention in business, society, and the banking sector (Faure, 2019). Indeed, the first applications of AI have been successful. In the case of Banco Bilbao Vizcaya Argentaria (BBVA) in Spain, the use of AI has led to increased revenues and profits as well as lower costs through better customer targeting, optimization of business operations, and identification of better locations for branch networks, among others (Alfaro et al. 2019; Florian and Thalmann, 2021).

However, AI is mainly applied in investment and non-customer-facing banks. AI in commercial banking focuses on customer interaction and has yet to receive much attention.

Today, AI in banking is applied in a limited number of services, such as stock prediction and credit scoring by large investment banks or credit scoring by credit card providers, which are traditionally highly computerized (Jadhav et al. 2016). Therefore, introducing AI in commercial banking could change the different processes and interactions with customers. The most profitable activities of commercial banks, such as consumer credit, mortgages, small and medium-sized enterprise (SME) lending, or retail payments, could experience revenue reductions between 10% and 40% until 2025 if banks do not respond appropriately to the increasing competition (McKinsey, 2016).

Today, according to the study by Florian and Thalmann (2021), AI can be used in all core business areas of commercial banks. In lending, AI can make accurate predictions using previously unused data types. By analyzing these data types, credit risk models become more accurate, profits can be increased, and new types of customers can be served. Using AI to detect fraud and money laundering can make payment processing

safer for customers. AI can also predict cash demand and reduce operating costs for ATM and branch networks. AI in compliance can help banks process the increasing amount of regulations faster, detect suspicious activity among their employees, and report suspicious customer activity. In marketing and sales, AI can recommend relevant products to customers and help with more accurate targeting. In deposit and account management, AI can help commercial banks by reducing the cost of cash deposits and offering new services to customers.

Improved risk management through AI can increase profits for the banking industry if the AI model can be documented to meet legal requirements. Also, the efficiency of marketing activities can be increased, and compliance management can be made more effective, but only if the privacy requirements in the context of AI can be resolved.

Artificial intelligence (AI) and machine learning (ML) are two related technologies emerging in the financial markets (Goodell et al. 2021). The emerging use of artificial intelligence and machine learning in financial systems disrupts and transforms industries and societies (Li and Tang, 2020). Many financial firms invest heavily in acquiring AM expertise from traditional hedge fund management firms and investment and retail banks to contemporary financial technology (FinTech) service providers (Holzinger et al. 2018; Wall, 2018). The generation of machine-readable data across the financial system, supported by continued growth in computing power and storage, has had overarching implications for the financial industry. At the same time, there is a continuing need to overhaul regulatory systems. This situation has led to re-evaluating the procurement and analysis of contractual terms of bank loans and programs across Europe and the US (Flood et al. 2016).

It is worth noting that the literature on AI and AI in finance has already been reviewed scientifically. For example, De Prado et al. (2016) assess the literature on credit risk and bankruptcy, observing a growing trend in finance research towards the use of hybrid models that combine traditional modeling with AI and neural networks West and Bhattacharya (2016) provide a comprehensive literature review on financial fraud detection. He proposed to classify these frauds according to the types of fraud indicated, the algorithms used, and the performance of the detection methods. Sangwan et al. (2019) highlight the prevalent themes in FinTech research.

Bhatia et al. (2020) explore the benefits of robot-advisor services, while Königstorfer and Thalmann (2020) examine the benefits and challenges of AI in commercial banking.

3.5 Black Rock: The New Giant of the Financial World

The financial sector's digital transformation has facilitated the emergence of new players whose value chain is based on new technologies and the exploitation of mass data as a core value-generating activity.

US asset management giant Black Rock is one of the pioneers of technological disruption in the financial world. With its ability to anticipate and exploit the twin disruptions in the financial industry, digitalization, and Big Data, the world's largest asset manager is now leveraging its dual competitive advantage. Its asset portfolio exceeded \$7.8 trillion in 2020. Black Rock has built its business model on data science and alternative data analysis, recognizing that financial markets are constantly changing and investment opportunities are cyclical. In its ongoing search for new investment

opportunities, Black Rock has developed two critical success factors: (1) exploration of new data sources and (2) technological innovation in exploiting big data.

In the late 1990s, Black Rock developed its electronic risk management system, Aladdin (Asset, Liability, Debt, and Derivative Investment Network), to become the first asset manager in the world to move towards algorithmic management of its investments. Aladdin has become the first artificial intelligence platform to combine sophisticated risk analysis with portfolio management, trading, compliance, and accounting tools. The platform offers institutional, public, and alternative investor asset management services.

In order to consolidate its strategy of market dominance through Big Data and to improve its decision-making processes, the US giant has continually expanded the scope of valuable and relevant data it uses. Black Rock has established a Systematic Active Equity (SAE) investment team specializing in alternative data analysis. Investment decisions are then improved by (1) harnessing the power of Big Data through the integration of unstructured data generated by the Internet, smartphones, satellites, and other innovations (GPS data, Internet of Things IoT, etc.); and (2) using new technologies such as Machine Learning (Hurlin and Pérignon, 2019), natural language processing, image recognition, etc. By combining these two effects, Black Rock is positioned as a world leader in developing and exploiting machine learning algorithms to analyze mass data and generate analyses on financial market trends and investment opportunities.

Today, Black Rock's visionary spirit leads it into the field of sustainable investing, notably through (1) proposing sustainable investment solutions to meet growing demand and (2) gradually integrating environmental, social, and governance (ESG) criteria into its investment decisions.

In conclusion, Black Rock's ability to anticipate and take advantage of a changing world has enabled it to dominate the asset management market. Black Rock has a significant comparative advantage, having solved the finance, Big Data, and technology innovation equation before its competitors. In addition, Black Rock's focus on recruiting AI, ML, and Big Data talent is a crucial part of its strategy: Black Rock's success is built on the ability of its people to innovate and excel.

3.6 The Emergence of New Risks in the Financial Sphere

Finance is undergoing profound changes and even fundamental ruptures (climate change, digital transition, pandemics, etc.). These structural challenges have led to new risks that need to be better understood by stakeholders and authorities (Banque de France, 2019).

Analysis of the risk map drawn up by the World Economic Forum (World Economic Forum, 2020) reveals two significant emerging risks: environmental and technological.

Finance as an industry remains with this new risk mapping. Indeed, financial operators are subject to both technological and environmental risks. Nevertheless, some financial sector players, particularly insurance and reinsurance companies and operators in the derivatives markets, are required to manage these risks.

The Emergence of Technological Risks

Technological transformation has deconstructed and restructured the banking industry's value chains and changed the mapping of risks. In addition to traditional risks such

as market risk, credit risk, or interest rate risk, new risks have been added, such as cyber-attacks, fraud or data theft, damage to image, etc.

A 2019 Bank of England survey of over 300 financial institutions (banks, insurance companies, traders, market intermediaries, etc.) reveals that: (1) digital transformation does not necessarily create new risks. However, it does amplify some existing risks; (2) existing risk management frameworks are operational but now need to evolve with the maturity and complexity of ML techniques (Bank of England, 2019).

Digitalization has transformed the business models of financial actors. It has also increased their vulnerability to rising cyber risk. Cyber risk is no longer an idiosyncratic operational risk; it is becoming potentially systemic (Banque de France, 2019).

Managing cyber risk is one of the significant challenges for the financial industry. It is easier to anticipate cyber threats and manage their consequences by understanding the genesis of cyber risk and its propagation and aggregation mechanisms. Paradoxically, in the age of Big Data, data on cyber-attacks still needs to be more usable. Not only is such data relatively scarce, but its predictive power could be more robust when it exists, as historical data is not representative of the future.

New Operational and Dependency Risks

The exercise of intermediation activities by new non-bank players (insurance companies, pension funds, investment funds, specialized subsidiaries of financial institutions and non-financial groups, etc.) is considered by the Financial Stability Board as a source of risk for financial stability. Indeed, any intermediation activity presents a credit risk, a maturity and maturity transformation risk, and a leveraged risk. Its exercise by an entity not subject to banking and supervisory regulations may become a new source of risk.

Technological developments that have enabled the entry of new players could have the impact of weakening traditional players. New players such as Bigtechs have competitive advantages in specific market segments, given the volume of data they hold and their customer portfolio. Traditional players are sometimes forced to enter into strategic partnerships with these new players while bearing the cost of regulation alone. Thus, the technological transformation has undoubtedly reduced the profit margins of traditional players by exposing them to more brutal and sometimes unfair competition. It has also created a risk of dependence of traditional players on new players.

3.6.1 Environmental Risks

The exposure of financial and non-financial actors to climate change risks is increasingly visible. However, the understanding of these risks still needs improvement. Although the analysis of these risks is evolving at the level of financial operators (insurance and reinsurance companies and financial markets), progress is still being made, particularly in hedging instruments and products. The ESG (environmental, social, and governance) criteria used by insurance organizations are struggling to integrate a forward-looking vision of this risk (Banque de France, 2019)

On the global risk map (World Economic Forum, 2020), climate risks are considered the most threatening risks regarding potential impact and probability of occurrence. Despite the progress made in considering and covering this risk by insurance companies and financial markets, climate risk still needs to be better understood.

The process of taking environmental, social, and governance (ESG) considerations into account when making investment decisions in the financial sector is included in sustainable finance. This process leads to longer-term investments in sustainable economic activities and projects.

4 For a Sustainable Finance

Like all sectors of activity, finance is evolving at the pace of ecological and environmental constraints. Although sustainable development has become an irreversible fundamental movement that should gradually involve all players (Le Saout, 2006), sustainable finance is struggling to establish itself in all financial institutions and on the markets. Indeed, the gap between the commitments made by the various players and practices remains significant. Sustainable finance remains a relatively small segment of the finance market. Nevertheless, integrating the ecological dimension into financial actors' internal and external decision-making processes is beginning to gain ground, particularly after the 2008 subprime crisis. Many companies and banks are gradually adopting extra-financial criteria known as ESG (environmental, social, and governance) criteria in their investment choices. However, these practices still need a harmonized international regulatory framework.

4.1 From Sustainable Development to Sustainable Finance

Sustainable development is a historical process that is fifty years old. As early as the 1970s, scientists and non-governmental organizations (NGOs) emphasized the importance of ecological issues for the future of humanity. Indeed, in 1972, four young economists from MIT wrote a report at the request of the Club of Rome entitled *Limits to Growth* (Meadows et al. 1972). The report established the dramatic consequences of exponential growth in a finite world. In 2004, three authors repeated their analysis (Meadows et al. 2004) and maintained their conclusion of the destructive effect of human activities on natural processes.

At the end of the 1980s, international institutions, mainly the United Nations (UN), joined the first actors committed to the ecological path and united the member states around sustainable development. Thus, the World Commission on Environment and Development report, known as the Brundtland Report (1987), laid the foundations for an idea of development that meets the needs of present generations without compromising the ability of future generations to meet their own needs.

Later in the 1990s, the sphere of actors for the benefit of ecology widened further to include business. Indeed, the Rio Earth Summit, held 1992 under the aegis of the UN, formalized the notion of sustainable development around three pillars: economic, social, and ecological. From now on, sustainable development means economically efficient, socially equitable, and ecologically sustainable development.

A decade later, a new threshold was crossed with the World Summit on Sustainable Development in Johannesburg in 2002: production and consumption patterns must be sustainable. The ecological challenge now concerns companies and their consumers.

In 2015, the UN adopted the 2030 Agenda for Sustainable Development. Its entry into force in 2016 marked the large-scale commitment of the international community to achieving the 17 Sustainable Development Goals (SDGs) by 2030.

Gradually, from a constraint weighing on all players in the global economy, the ecological deal has been transformed into a real opportunity:

”Far from being a burden, sustainable development is a boon: economically, it is a chance to create markets and jobs; socially, a chance to combat exclusion; and politically, a chance to reduce tensions that risk degenerating into violence and give everyone, man or woman, a voice and the choice to decide their future.”

This long and historical process to unite the international community around the values and principles of sustainable development has been marked by the belated engagement of business and private financial actors.

4.2 Sustainable Finance: Some Achievements

Awareness of the potential role of finance in sustainable development dates back to the late 1990s. By directing investments towards sustainable projects and companies, the financial sector could be a lever for sustainable development (Aloisi De Larderel, 1999). Some international financial institutions, such as the World Bank and the European Development Bank, have integrated environmental considerations into their financing and investment policies. In contrast, private financial actors have continued to focus on value creation and expected returns in their investment criteria.

During the 2000s, companies gradually replaced a strategic reference framework based on economic and financial performance with a global performance approach in which ESG indicators are a determining factor. For performance management, the first-generation dashboards focused on financial indicators were replaced by dashboards integrating ESG indicators. Gradually, these indicators have become a source of value creation through the creation of competitive advantage, staff motivation, and recognition by the financial markets via ethical ratings (Martinet and Reynaud, 2004).

In parallel with companies' integration of ESG indicators, agencies specializing in environmental and social rating emerged in the 2000s. Without a common reference framework, these rating agencies initially relied on criteria recommended by the UN, the OECD, or the European Union. However, since 2016, these agencies have been developing their respective analysis grids based on the 17 SDGs, broken down into 169 targets.

Unlike traditional agencies, extra-financial rating agencies have emerged on the European continent. Nevertheless, to counteract the rise of these new rating agencies, in 2016, Standard and Poor's bought a British agency, Trucost, specializing in environmental data. For its part, Moody's quickly integrated ESG rating criteria into its credit rating system and acquired Vigeo Eiris in 2019.

In parallel with the emergence of extra-financial rating agencies, socially responsible stock market indices were also created, such as the Dow Jones Sustainability Index (DJSI) in 1999, the Euronext-Vigeo in 2001, and the Ethibel Sustainability Index (ESI) in 2001. These indices aim to direct sustainable investments towards the most responsible companies defined according to ESG criteria (Karthick, and Gopalsamy, 2023).

Nevertheless, after the 2007-2009 financial crisis, sustainable finance began to gain ground without replacing traditional finance. According to the Banque de France terminology, sustainable finance or responsible finance refers to a branch of finance that integrates environmental, social, and governance (ESG) criteria into investment choices. It includes responsible investment (SRI) and the social and solidarity economy (SSE), in particular microcredit and participatory finance (crowdfunding).

4.3 Sustainable Finance, the Challenge of National and International Standardization

Despite progress over the last two decades, sustainable finance is struggling to establish itself as an alternative form of finance, mainly because of the need for a harmonized international reference framework recognized by all operators. Indeed, since the financial globalization of the 1980s, financial markets have become increasingly integrated with the free movement of capital. This financial globalization has imposed on the various operators an accounting and financial harmonization on an international scale in order to facilitate investment decisions (Kouaib and Amara, 2022). Today, it is the turn of sustainable finance to invest in this standardization process to allow the various operators access to relevant and reliable information. In this context, the European Commission put in place 2018 an action plan for sustainable finance (European Commission, 2018). The action plan provides for the following:

- The establishment at the European level of a common language for sustainable finance, i.e., a unified classification system known as a taxonomy;
- The creation of labels for green financial products;
- Encouraging asset managers and institutional investors to take sustainability aspects into account in the investment process and to strengthen their reporting obligations;
- Encouraging insurance companies and investment firms to inform their clients based on their sustainability preferences;
- Integrating sustainability into the prudential requirements of banks and insurance companies;
- Increasing transparency in corporate reporting

In parallel with the European Union's commitment to sustainable finance, the international standards organization ISO has established a technical committee on sustainable finance, ISO/TC 322. The committee's mission is to ensure the alignment of the global financial system with the SDGs by developing standards for financial institutions and financial products. (ISOFocus, 2020)

Peter J. Young, Chair of ISO/TC 322, said that sustainable finance sets four different objectives for the work of ISO/ TC 322:

- (1) Establishing globally recognized common standards, terminologies, and principles for sustainable finance. This goal of international standardization would result in greater visibility of actors and more transparency in the sustainable finance market. Standardization would improve the functioning of the sustainable finance market by reducing transaction costs and increasing informational efficiency.

- (2) Support sustainable finance activities and assist financial institutions, particularly banks, investors, and insurers, to better integrate environmental, social, and governance (ESG) factors into their financing and investment policies. Indeed, establishing an international regulatory framework for sustainable finance and harmonizing financial practices in this area could give credibility to sustainable finance actors.
- (3) Understand and identify sustainable finance activities to facilitate innovation and development of sustainable financial products and related services such as auditing and ESG data production.
- (4) To improve the transparency of sustainable financial flows and the ESG performance of sustainable financial activities, institutions, and markets.

5 Conclusion

Digitalization is having a significant impact on the finance sector. Overall, digitized finance is improving access to finance, opening up opportunities for new projects, and attracting new investors. In parallel to the entry of new players such as Fintechs, Bigtechs, and even Regtechs, traditional investors such as banks and venture capitalists have adapted. New alternatives and more traditional forms of financing have come closer together and strengthened their collaboration (Hornuf et al. 2020). Of course, there is still a long way to go before the new market entrants reach the maturity phase. In addition, there are still many obstacles to overcome in order to protect investors without stifling innovation. It is also likely that digitalization will continue to evolve and that innovations will replace or refine existing technologies (Mieszala, 2019). This fluidity is a strength that also represents a considerable challenge for regulators.

In this context, fintech solutions will probably continue to fund start-ups, but we also observe that mainstream firms and conventional banks are becoming essential players in the fintech space. Some large, established companies have started to use crowdfunding to their advantage but not to raise funds. In addition, institutional investors, banks, and venture capital funds invest heavily in lending and crowdfunding platforms, not just start-ups. These investments help platforms to grow and eventually consolidate. Some traditional banks adapt from within and expand into the fintech lending space. All these trends are clear indications of the growing collaboration between alternative sources of finance based on the digitalization of finance. Understanding how traditional and alternative financial channels will interact in the future and how they can build bridges remains an unexplored area of research.

This research is purely theoretical, which makes it difficult to determine concrete results. However, it will form the basis of future empirical studies, particularly by considering the specific characteristics of developing countries.

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Optimisation of Resources and Profitability for Gastronomic Companies: Implementation of a Logistics Management System

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Abstract. This study focused on determining guidelines for the implementation of a logistics management system that benefits the profitability of restaurant businesses. A descriptive methodology combining qualitative and quantitative approaches was used, including interviews and surveys with 22 key restaurant employees. The results reveal the success of the implemented logistics strategy, which has led to an accurate allocation of resources and a solid financial performance, reducing fixed costs and increasing long-term operating profit. In addition, the research shows that a lack of knowledge among employees about their responsibilities affects the efficiency of process execution. This highlights the importance of human capital knowledge in promoting innovation and business success. The study promotes a deeper understanding of how the composition of human capital and the management of logistics tools can positively influence labour productivity. The results provide valuable information for managers by suggesting that adjusting logistics management strategies based on human capital can improve the efficiency and quality of logistics processes, which in turn can increase profitability and competitiveness in the market. It is concluded that the implementation of quality management systems in gastronomic companies is highly beneficial, as it optimises resources, increases profitability and improves relations with customers, employees and suppliers.

Keywords: Implementation · system · management · profitability · standardisation · quality · service

1 Introduction

In the foodservice industry, profitability and resource optimisation are essential in a highly competitive global world. The adoption of logistics management systems is crucial to achieve these objectives [1]. Traditional and fast-food restaurants face constant pressure to maintain quality and consistency while adapting to changing customer

demands. The industry has undergone significant transformation due to the convergence of advanced technologies and modern business management approaches [5, 6]. This is reflected in the distinction between restaurants, which offer traditional dishes rooted in both regional and local culinary history [2], and fast-food establishments that standardise their offerings using pre-cooked and frozen ingredients to ensure uniformity across their locations [3, 4].

In this new context, adaptation in corporate strategies is crucial, as industry leaders seek to strengthen their relationships with customers through the internal management of their companies [7]. Inventory management, from the registration and acquisition of items to their distribution, is essential to effectively coordinate material resources, optimising production and resource use [8, 9]. Reducing logistics costs is fundamental to assessing the efficiency of investment and is linked to financial performance, involving the reduction of backorders, the elimination of obsolete inventories, thus improving forecasting, together with effective planning to minimise inter-warehouse transfers and small batches [10]. Maintaining a solid inventory control system is essential to prevent losses that could affect a company's profitability [11].

Implementing a specialised logistics management system in food and beverage businesses can boost their performance and control, according to [12]. Research suggests that this implementation optimises operational processes, reduces losses, and ultimately increases the company's ability to generate profits in its financial year. In the 2017 US context, inventory expenditures accounted for 30% to 35% of the total value of companies. Since 2009, Latin America has made progress in training professionals in inventory management, albeit with a predominantly administrative focus [13]. Meanwhile, Colombia presents diverse scenarios related to inventory management, in Ecuador and other South American countries, inventories play a relevant role in financial reporting by safeguarding materials and products destined for future commercialisation [14]. Considering the above, the main purpose of this study is to determine the guidelines for the implementation of a quality management system that allows the optimization of resources, favoring the profitability of the gastronomic company. In this procedure, both the compilation and the detailed percentage analysis of the information acquired through surveys and interviews have been carried out. This has made possible an exhaustive evaluation of the implementation of logistic principles in the company, followed by the consequent calculation of storage costs through the application of the PEPS (First In, First Out) rotation system.

2 Literature Review

2.1 Cost Management System

Globally, companies pursue product evaluation and competitiveness [15] in this scenario, the cost system emerges as an essential tool for efficient management, providing crucial information to achieve corporate goals [2]. This is particularly noticeable in cost management in the food and beverage sector [16], where direct inputs, such as raw materials and labour, are considered [17]. The effectiveness of the cost system plays a key role in the development of the company and its ability to stand out in the market [18]. The

implementation of predefined procedures is geared towards quality improvement, monitoring the costing of standard and sub-formulae, and waste management with methods that positively impact the environment.

2.2 Purchasing and Warehouse Management System

The evaluation of the incorporation of a purchasing and storage management system results in greater efficiency in the use of resources and an increase in profitability in the gastronomy industry. This system covers the safeguarding of supplies, inputs, and products at different stages, following the “PEPS” principle, which is applied to inputs for the production of dishes. Inventory management is an integral process that encompasses the entire supply chain and is fundamental to the management of an organisation [19]. It focuses on the structure, planning and control of inventory levels, which impacts the company’s expenses and profits [20]. Classifying inventories according to risk type is essential for making sound decisions. Strategic acquisitions are key to the financial structure and should generate profitability, quality and efficiency [21, 22], allowing for the expansion of services. These systems improve efficiency and costs, resulting in strategic purchasing excellence and its positive impact on various aspects [23–25].

2.3 Service Quality Management System

The implementation of a logistics management system in the gastronomic sector has a positive impact on the profitability of companies by strengthening their human capital. Meeting customer expectations becomes a key strategic goal and is evaluated in terms of the degree of satisfaction with the service provided [26, 27]. Service quality is divided into two aspects: functional quality, related to performance in service delivery, and technical quality, which refers to the tangible results obtained [28, 29]. It is essential to understand the needs of customers and to adopt the quality attributes valued by them. This, in turn, increases the economic wealth and optimises the workforce of food businesses, as customer satisfaction fosters persistence and loyalty to the products offered [30].

2.4 Human Resources Management

Human resource management plays a crucial role in business structuring and organisational culture, contributing to organisational progress [31, 32]. Employee engagement relates to organisational values, fair treatment, and recognition, promoting diversity, constructive working relationships, well-being, appropriate working conditions and opportunities for advancement [33]. In food companies, human capital management becomes a visible reflection for employees. Therefore, personnel selection is critical to success in the food industry, where proper human capital management is an essential driver of business success [34–36].

3 Methodology

The study focuses on the design and implementation of a logistics model with the aim of improving the efficiency of resource management and ultimately increasing the profitability of the company. This methodology adopts a holistic approach that combines both qualitative and quantitative aspects. It involves interviews and surveys of restaurant staff, the results of which will be subjected to a thorough process of tabulation and percentage analysis, which will allow the hypothesis to be validated. The general approach is oriented towards a descriptive methodology that concentrates on exposing the company's problems, in particular its weakness in the planning of logistical processes, which translates into substantial financial losses.

In this study, a deductive method is used that starts from the general to the specific, beginning with the identification of the problems and areas for improvement in the logistics management of the restaurant. The target population consists of the 22 employees, including key roles such as the general manager, shop manager, purchasing manager, grocers, cooks and vendors, and due to the small size of the population, 100% of items are taken from the population. Two main techniques were used to collect data. Firstly, surveys were conducted with the 22 restaurant workers in order to assess their understanding of key concepts related to purchasing efficiency, inventory management, process standardisation and customer service, among other relevant aspects. In addition, interviews were conducted with the shop manager and the shop administrator to delve deeper into the procurement and purchasing processes, data analysis is performed with the help of tabulation using the Excel spreadsheet programme, as well as to evaluate the application of logistical principles in the company, with the PEPS rotation system and the calculation of storage costs during the period January to December 2017.

4 Results

From the outset, the study focused on fusing tradition and innovation in fast food, maintaining strong relationships with quality suppliers to ensure a fresh product and excellence in traditional dishes. However, a critical weakness was identified in the production processes: the lack of standardised recipes resulted in improvised production of final products, generating imbalances in purchasing, wastage of ingredients and customer dissatisfaction due to inconsistent products. This caused financial losses. To illustrate how losses affect costs, an example is given for chicken on two different days. In the first case, on Monday, with a 30% loss and a 70% usage, the net price was S/9.28. On Tuesday, with a loss of 40% and a usage of 60%, the final net price amounted to S/10.83. These examples reveal how fluctuations in losses influence net prices, which in turn can increase final costs and reduce profits. The lack of understanding of product management negatively impacted the quality of service. When analysing the data without a logistics management system, we see that fixed costs have increased considerably. In January, costs amounted to 62,866 soles, rising to 67,366 soles in February. This increase has had a significantly negative impact on the company's profitability. In January, fixed costs generated a negative figure of -13,960.39 soles, worsening in February with an even more negative figure of -15,086.34 soles. This indicates that the company has incurred

substantial losses in these two months, which is a cause for concern because, despite the increase in fixed costs, it has not generated the necessary income to cover these additional expenses.

Following the thread, [37] suggests that the use of a formula allows effective warehouse control to be maintained and limits losses to 60%, which contributes to improved efficiency in culinary planning and, ultimately, to a higher quality of service.

$$PL = P. MARKET / \% YIELD$$

Therefore, a detailed menu is carefully prepared, including all the necessary elements for each dish. As a result, an individual template is generated for each preparation, specifying precisely the ingredients required, their respective quantities and an estimate of the cost of purchasing these products. Following the implementation of a logistics management system, an efficient administration of collaborators resulted in an increase in fixed costs, however, this increase contributed to improve the management of resources, including customer service, generating positive results.

Table 1. Profit and Loss Statement through logistics management system.

	January	February	March
Revenue	69.237,29	70.622,03	72.034,47
Variable cost (MP)	34.880,40	35.578,01	36.289,57
Contribution margin	34.356,59	35.044,02	35.744,90
Fixed cost	24.026,00	24.026,00	24.026,00
Fixes expenses	1.140,00	1.140,00	1.140,00
Operating profit	9.190,89	9.878,02	10.578,90

Table 1 reflects the significant benefits derived from the introduction of the logistics management system. This implementation has significantly improved supply management, which in turn has led to a considerable increase in operating profit. Compared to the previous poor management of a restaurant without the system, these results highlight the positive impact of the change. In addition, it is clear from the surveys that 99% of the employees are in need of training, regardless of the area to which they belong, while in Fig. 1, 53% are in favour of global and on-the-job training respectively.

With regard to worker satisfaction with the service provided, Fig. 2 shows that the degree of dissatisfaction on the part of the workers is high at 77%, possibly due to the low level of knowledge of the services provided by the restaurant and the processes themselves.

Regarding the level of service preferred in the restaurant, Fig. 3 shows that 54% of respondents prefer to provide an informal service, taking into account that they are based in fast food restaurants.

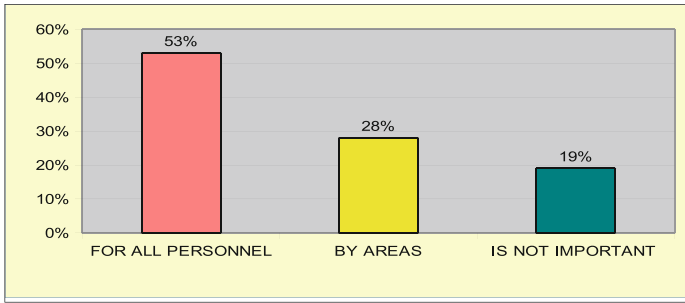


Fig. 1. Should training be for all staff or by area?

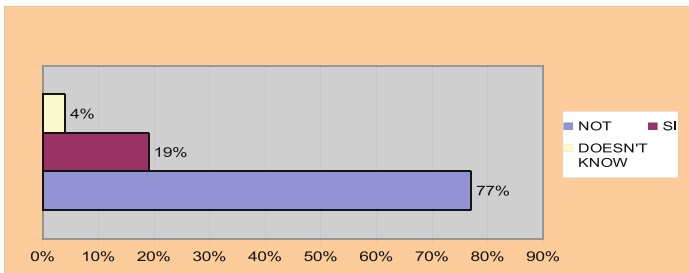


Fig. 2. You are satisfied with the kind of service you provide to your guests.

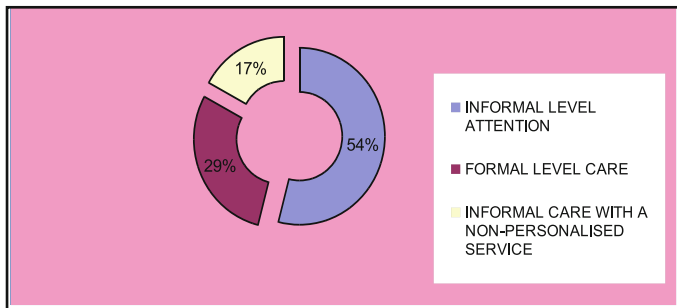


Fig. 3. What type of service would you prefer for your gourmet Peruvian restaurant?

5 Discussion

Effective implementation of logistics management system in culinary companies optimises resources and profitability by balancing cost savings and quality, improving financial aspects and overall performance. Product lifecycle management tracks costs and profits at different stages, seeking to optimise revenues and reduce costs with more accurate and thorough decisions [38].

Research reveals price fluctuations due to the lack of logistics activities, highlighting the importance of grouping costs by activity for a current and future perspective [39].

Leading research [40] focuses on improving internal logistics and production procedures in a newly established sector. [41] identifies opportunities for improvement in both production and internal logistics flows, benefiting restaurant supply. This enables a sound strategic approach to better control costs and activities [42] and [43] also optimise production processes and internal logistics flows. The adoption of the target costing approach strengthens the connection with customers, positioning companies in a better competitive position [44].

In another aspect, the political referral strategy emerges as a valuable logistical tool for local leaders [45]. This strategy, used to address crises, has demonstrated its ability to generate additional income, ensure liquidity and improve resource management, with the role played by business unit managers and staff with the support of religious leaders being crucial [46, 47]. However, a limitation is identified in employee knowledge of the restaurant's products, highlighting the importance of employee commitment and leadership to maximize service [48]. A positive work environment, driven by employee participation, fosters innovation in customer service.

Employees' limited knowledge of their responsibilities affects the efficiency of processes. Employees recognise the need for training in both information about the restaurant and their own tasks [49]. Figure 2 shows that employees are not fully satisfied with customer service, possibly due to their lack of familiarity with restaurant procedures and services. The data in Fig. 3 reveal a preference for informal service in fast food restaurants, highlighting the importance of convenience and speed in the customer experience in this type of establishment.

Finally, it is argued that companies can ensure their sustainability through the adoption of state-of-the-art monitoring practices and tools, which take into account more than just financial aspects. This means recognising the importance of addressing broader, sustainable issues that go beyond purely economic metrics to ensure a lasting and successful business future [50–52].

6 Conclusions

This research highlights the vital importance of effective logistics management in the culinary industry for the competitiveness and sustainable growth of companies. Resource optimization and improved profitability are achievable goals through strategic logistics management backed by hard data. Furthermore, it underscores the pressing need for effective human resource management and investment in staff training and development to ensure business growth and customer satisfaction. In summary, these findings highlight the importance of the human factor and logistics management in the evolution and continued success of the foodservice industry.

For future research, two essential strategic approaches stand out: strengthening innovation in products and services to enhance the relationship between human capital and its performance, together with the adoption of state-of-the-art practices and tools that address aspects beyond the financial, promoting long-term sustainability in an ever-changing business environment. Together, these lines of research guide organizations seeking to remain at the forefront of innovation and sustainability in this dynamic business environment.

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Academic Performance of Staff and Leadership Style to Assess the Mediating Role of Job Satisfaction

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Abstract. To assess the Mediating Role of Job Satisfaction between Leadership Style and of Academic A structured questionnaire method was used to collect data from 639 teachers, and the data was collected by using a convenient sampling method. A sample of 15 private colleges was chosen as a sample. While the selection of these 15 colleges, certain criteria like quality of education, long existence, popularity among people, and strength was considered. It is applied to each latent variable, and the square root of each latent variable is found. The correlation between the latent variables must be greater than DV. In this data, there is evidence of moderation mediation. As a result, colleges are advised to implement the leadership style and increase job satisfaction (JS) to improve academic staff performance (PAS) and reduce teacher and student migration.

Keywords: Leadership style · Performance of Academic Staff · Job satisfaction · Digital Skill

1 Introduction

Teachers demonstrate a very vital role and act as the backbone of all the educational activities in building our nation. The key role in to process of the implantation of educational programmes and also activities related to educational. They are undeniably the most vital group of experts for our nation's forthcoming. Therefore it is alarming to find that many of today's educators are disappointed with their professions. A teacher's job is to help the student to expand the horizons of their consciousness and to facilitate their taking responsibility for their actions, behaviour, attitude, and learning. The education system in our country can change, and teachers in society as part, but their position remains identical. Innovative teaching methods like the usage of ICT tools and teachers

having to retain their quality of teaching methodology remain countless to educational institutions. The teachers have to retain the quality of teaching in an optimistic approach. They will discharge their duties with clear intention and greater perseverance to derive satisfaction from their work. “Job Satisfaction (JS)” is the blend of both psychological and emotional experience in their work. The relationship between what everyone expects in unity to what everyone achieves, any work that cannot be done effectively without satisfaction.

2 Literature Review

“Job satisfaction” is termed as the level of satisfaction staffs feel with their job. It is an emotionally based positive based experience in current job conditions. Nowadays, primary principles of leading organizations are trying to measure the job satisfaction of employees, which would be an important factor for the success of organizations. Satisfaction or liking are explored in 1963. Previous research studies by Gebhard (1948) and industrial arena studies by “**Herzberg, Mausner, and Snyderman**” (1959) are important determinants of work-level satisfaction. The satisfaction level of employees can be measured through various theories **Locke, E. A. (1969)** theories to find out the satisfaction level of employees. **Krithika, A., & Rajam, K. (2022)** impact of “job satisfaction” and “job stress” among the women college teachers: an empirical study using SEM. A total of 287 female faculty members at various levels were chosen at random from a population of approximately 498 employees at Tiruchirappali’s 15 associated colleges. It is a sequential mixed-method approach in which the study variables are measured using phenomenography and then the causal relationship between them is validated using structural equation modeling. Satisfaction with pay and coworkers was discovered to be a substantial predictor of decreased working stress. In contrast to their expectations, the authors were unable to find any significant relationship between promotion and job stress. Previous empirical study on the association between job satisfaction components and job stress was published in the Journal of Applied Psychology. **Khandelwal, P., & Nair, M. (2022)** Structural Citizenship Behaviour of Teachers Connected to the Effectiveness of Higher Education Institutions. The association between university instructors’ “Organisational Citizenship Behaviour” (OCB) and the organizational effectiveness (OE) of Indian universities is investigated in this study. In Rajasthan, India, 722 teachers from various public and private universities participated in this cross-sectional survey. The findings show that OCB and organisational effectiveness have a favourable and significant association. Furthermore, state institutions have a bigger variance of 78% in organisational effectiveness due to organisational citizenship behaviour than private colleges, which have a variance of 49%. The theoretical and experimental link between OCB and OE in education institutions in India is established in this study. This study offers some practical advice for university administrators on how to operate their institutions effectively. It also provides policymakers with information to study OCB as a innovative and pioneering component of the evaluation dimension and pay system, in addition to classic HR system criteria. The study was conducted by Iwuoha Faith Mbua and Ohia, Adanma Ngozi in Rivers State, Nigeria, with the aim of examining organizational climate (OC) and teachers’ job **satisfaction (JS)**. There were 5,657 public

primary school teachers in the population. There is a large sovereign positive association between working relationships, leadership style (LS), employment location, and teacher job satisfaction in public elementary schools. The study found that the characteristics of organisational climate (OC) in this study, such as working connection, leadership style, and employment location, have a substantial optimistic link with teachers' job satisfaction in primary schools in Rivers State.

3 Research Methodology

The SEM Model is used in this study to analyze data. Constructed on regression analysis, it is a statistical method derived from path analysis. Besides investigating the measurement model of the research instrument, it is also possible to examine the structural model of the research module. It is evident from previous research that PLS is more effective than regression and factor analysis because it can be used to evaluate both theoretical models and measurement models (Urbach and Ahlemann, 2010; Hair et al., 2012; Henseler et al., 2015). To evaluate the significance of the paths in the structural model, the Amos 23 software was used, using bootstrap resampling. A convenience sampling method was used to collect data from 639 teachers, in order to evaluate the validity of the content questionnaire. Data were collected using a convenient sampling method from a sample of 15 private colleges that had 639 teachers. A sample of 15 private colleges was selected for the study. Ensure that all samples used in this study are content valid. The total number of samples collected was 654. Based on the check of the data, deletion of invalid questionnaires, and scrutiny of the valid sample, the sample size was determined to be 639. Among them, 41.8% were male and 58.2% were female. Most of the samples (72.8%) were aged 26 to 40 years old, and 60.9% had university educations.

4 Data Analysis

To find out the “moderated mediation” using AMOS based on “Andrew Hayes’ (2018) Process Model 7”. Data analysis is based on mediated moderation and moderated mediation Muller et al. (2005). Figure 1 shows the conceptual framework.

To specify this model in AMOS, need to include “a” as the independent variable (Leadership Style), “b” as the moderator variable (Digital Skill), and “c” as the interaction term. Need to label for the path a, b and c for interaction term to the mediator and also change the syntax to reflect your alternative labeling. The next step is to find the mean and standard deviation, as displayed in Table 1.

To specify the effect in AMOS use the ‘Define new estimands’ option to request simple slope as “low, medium and high value” for the moderator (Digital Skill) for path “a” model. The conditional indirect effect has “low, medium, and high values” of the moderator. The index of moderated mediation is an index of the linear relationship between the conditional indirect effects and the moderator (Hayes, 2015). Yzerbyt et al. (2018) suggest that the use of bias-corrected CI’s (Confidence level) are more likely to produce type I errors than the standard Percentile confidence intervals. Figure 2 displays the overall SEM output.

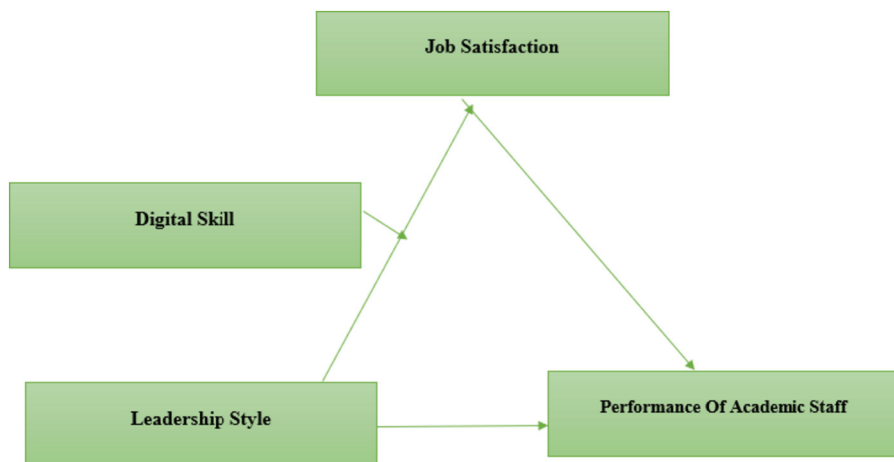


Fig. 1. Statistical Diagram of Moderated Mediation Model

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Digital Skill	639	-3.36929	3.83303	.0115970	1.37328817
Valid N (Listwise)	639				

In the above regression weight result “x” (Leadership Style) variable predicting the mediator (Job Satisfaction) in this path “a” is statistically significant, as shown in Table 2. The digital skill predicting the mediation variable (job satisfaction) is not statistically significant and then the interaction term (leadership style & digital skill) predicted as the mediation variable is not statistically significant it is represented in path “c”. Leadership style predicting the academic performance of staff is statistically significant. Job satisfaction predicting the academic performance of staff is statistically significant it is represented in path “b”.

These are all the estimates from the model for the conditional effect leadership style that mediation variable as job satisfaction it is defined in path “a” the simple slope is defined as low = 3.218, medium = 3.491, and high = 3.763 for the moderator variable (digital skill), shown in Table 3. The next to find out the conditional indirect effect of the moderator (digital skill) as low CIE = 1.733, MedCIE = 1.923 and HighCIE = 2.073. The index of moderation mediation is 0.109 as shown in Table 4.

The next step is to find bootstrap confidence using the percentail method. The lower and upper boundaries have 95% of confidence intervals. The null hypotheses for the tests are “Zero”, the simple slopes are “Zero”, the conditional indirect effect is “Zero” and then the Moderation mediation should also be “Zero”. The Zero is fallen between the lower and upper boundary in this test is not statistically significant. The zero is fallen outside the lower and upper boundaries is statistically significant. Digital skill is the moderator

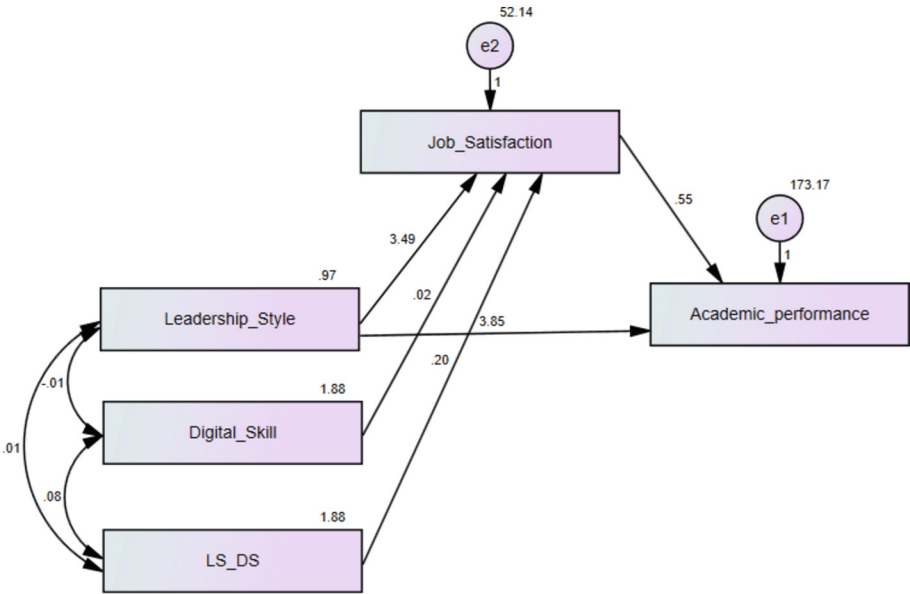


Fig. 2. Structure Model-Overall SEM Output

Table 2. Regression Weights

Factors		Estimate	S.E	C.R	P	Label
Job_Satisfaction (JS) < --	Leadership_Style (LS)	3.491	.290	12.031	***	a
Job_Satisfaction (JS) < --	Digital_Skill (DS)	.025	.209	.118	.906	
Job_Satisfaction (JS) < --	LS_DS	.198	.209	.951	.341	c
Academic_performance (AC) < -	Leadership_Style	3.846	.586	6.567	***	
Academic_performance (AC) < -	Job_Satisfaction	.551	.072	7.642	***	b

variable, it represented the level as low, medium, and high. The result indicates that zero is fall outside the lower and upper limits means each of the simple slopes is statistically significant. For all conditional indirect effects i.e., LowCIE, MedCIE, and HighCIE all these moderators are significant. The next important to find a moderator mediation effect i.e., Indexing the linear relationship between the indirect effect and the moderator variable zero is fall between the lower and upper limits means each of the simple slopes is statistically significant. There is an evidence that moderation mediation is present in this data. Accordingly, Private schools are advised to implement the style of leadership

Table 3. User-defined estimands

lowSS	3.218
medSS	3.491
highSS	3.763
lowCIE	1.773
medCIE	1.923
highCIE	2.073
IndModMed	.109

Table 4. Percentile Method- User-defined estimands

Parameter	Estimate	Lower	Upper	P
lowSS	3.218	2.196	4.164	.001
medSS	3.491	2.878	4.056	.001
highSS	3.763	3.097	4.421	.001
lowCIE	1.773	1.148	2.444	.001
medCIE	1.923	1.253	2.614	.001
highCIE	2.073	1.269	2.977	.001
IndModMed	.109	-.105	.401	.325

and to increase the JS so that the performance of academic staff will increase and the rate of migration of staff and students will decrease.

5 Discussion and Conclusion

In this research, the Leadership style quality is an important factor for decision-making in an organisation or institution. All these factors are considered as Leadership Style (LS) i.e. Autocratic Style, Democratic Style, Laissez Faire in this study additionally Digital skill (DS) factors had been added in this style because digital skill is required for sustainability in society. The researcher finds the effect of LS on ASP. The result of the study indicates that LS can predict the ASP in a positive manner. This show that the management of various colleges in the Coimbatore district implemented the Leadership style, which will increase the performance of the staff. DC-style is more essential because it is a higher coefficient. It will be implemented in various colleges and will yield high performance of academic staff. In this context, the democratic style and digital skill style is very essential to survey the institutions it has a positive effect on their performance. Based on findings ACS, DCS, LFS, and have a significant effect on job satisfaction for teachers. Accordingly, Private colleges are advised to implement the style of leadership and to increase the JS so that the performance of academic staff

will increase and the rate of migration of staff and students will decrease. DSS is a very essential factor for surviving in institutions. Teachers have to teach in digital competence with a set of skills, competencies, knowledge, and attitudes that teachers must have to make critical, dynamic, and creative use of ICT in their classrooms.

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Women Leadership Challenges: Evidence from Healthcare Sector

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Abstract. The majority of the workforce in the healthcare industry is women, but still, a small percentage of them hold leadership positions in the industry. This study aimed to discover the challenges women in the healthcare industry go through that prevent them from obtaining successful leadership positions. A descriptive design was used to carry out the study. The study's results revealed that the main challenges women professionals in the healthcare field in Saudi Arabia relate mostly to work-life balance, working conditions, career advancement, and distributive justice, as the majority indicated that they experience different levels of hurt when it comes to the four areas. The study also revealed that although not many, some of the women still encounter challenges when it comes to social support and the existence of role models. Few indicated they experienced difficulties when it came to family support. The results of this study are significant to healthcare organizations and policymakers as they provide insights on areas they still need to work on so as to create policies that can promote women's equality and empower them.

Keywords: women leadership challenges · work-life balance · working conditions · career advancement · distributive justice · health sector

1 Background of the Study

Women have been given more opportunities to serve in various positions worldwide, and the present generation more readily accepts the idea of women in executive roles than previous generations did (Mousa et al., 2021). Women fill various jobs and positions in the healthcare industry, including in medical institutions, clinics, and educational institutions. Over the last few decades, there has been a rise in the percentage of working women in medicine and healthcare worldwide. Berlin (2023) indicated that women are the majority when it comes to filling various tasks and responsibilities in healthcare organizations. According to Kalaitzi et al., (2017) women make up 75% of the labor in the healthcare sector worldwide. But only the 38% occupy top jobs with only 18% of medical service providers' CEOs and 14% of the healthcare panel of governors are women,

The few numbers of female leadership positions have come hand in hand with challenges that have barricaded their working efficiency. In the context of the Saudi 2030

vision, it aims to ensure women are empowered and gender inequality issues has been drastically reduced. The program's ultimate goal is to have them become productive members of society by honing their skills, channeling their passions, and seizing the chances presented to them. This cannot be done if their challenges are not well-known and solved. Therefore, it is necessary to address the chronic problem(s) of the underrepresentation of women in senior roles in the medical industry. Despite a notable rise in the proportion of women working in medicine and healthcare worldwide, they nevertheless encounter several difficulties in their careers. The scoping research seeks to investigate and modernize the problems encountered by female healthcare workers, highlighting both fresh and unsolved problems. By conducting this research the policymakers, healthcare organizations, and stakeholders can better understand the obstacles that stand in the way of enacting effective strategies for gender equality and female empowerment in the medical field.

2 Literature Review

2.1 Challenges Faced by Women in Leadership: Limited Career Advancement Opportunities

In terms of career advancement, studies show that women are disproportionately more prone to be overlooked than males. This is most noticeable between the top and middle levels of management. Many women find it difficult to advance in their careers after they reach the second level of management, either in the medical field or any other field (Berlin, 2020). This is because of the widely held belief that female leaders are not as competent as their male counterparts.

2.2 Family Balance

Since the beginning of time, women have been seen as independent individuals who are liable for making decisions on the careers of their families. In the past, women were expected to remain at home, responsible for the upkeep of the house and the children. As a result, they were rarely offered chances to work outside the home (Rawal, 2021). Nevertheless, as a result of recent developments and a rise in educational options, women have obtained work chances and enjoy leadership positions in today's society. This has, however, come with complications, such as the fact that women who work in healthcare often find it difficult to maintain a healthy work-life balance, as they are divided between the competing demands of their professions and the responsibilities of their families.

In a patriarchal society like Nigeria's, for instance, a research project involving female medical professionals found that nearly all of them (95%) admitted that their jobs harmed their personal lives, particularly their relationships with their children and other family members. ALobaid et al. (2020) stated how Nigeria's male-dominated culture did not approve of the concept of women working professionally, and even if they did, they believed that employees should not take precedence over the responsibilities of caring for one's family.

2.3 Working Conditions

Another obstacle that female nurses in the Health Service must overcome is the significant difficulty they have in gaining justice and equal opportunity in leadership roles due to the intentionally poor behavior of male bosses. Some supervisors, for instance, ignored female employees when they complained about substandard work that contributed to stressful circumstances in the workplace (Pfleiderer et al., 2018). Many influential people believed women should be barred from advancing to positions of greater responsibility within their chosen fields. In addition to problems in the workplace, there are also problems associated with stereotyping, which occurs when a certain belief about women continues to dominate. It is very uncommon for female healthcare workers to resort to self-silencing as a result of gender stereotypes since they lack the motivation to even speak out in meetings. This indicates that working women cannot voice their opinions and concerns on the conditions of their jobs inside the organization for which they are employed.

2.4 Lack of Family or Spousal Support

Lack of spousal support has been a great challenge to female leadership positions, especially in healthcare facilities. In various cultures, women are supposed to submit to their spouses. That implies that if the man does not support some of the wife's tasks, they have to stop (Kalaitzi et al., 2019a, b). This has led to an increasing divorce rate among ladies in medical leadership positions. This challenge of power balance among families has thus barricaded most of the ladies from advancing in their medical careers.

Alhajri and Pierce (2022) denote that the cultural norms in Saudi Arabia also significantly contribute to the perpetuation of gender inequity. Women's traditional gender roles and obligations often place a premium on their responsibilities as spouses, mothers, and caregivers. The expectation that women should prioritize taking care of their families might deter them from pursuing jobs and leadership roles. As a result, when women defy these conventions and pursue leadership positions, they risk social rejection, censure, or exclusion.

As a result of the notion that they need male supervision, this belief may weaken women's autonomy and authority because others may doubt or disregard their choices and actions. The guardianship system may restrict women's capacity for self-determination and effective leadership. The stereotype that connects leadership traits to masculinity has an impact on women in leadership as well (Nassir et al., 2019). For women in leadership roles, societal norms around maternity and family might provide extra difficulties (Aldossari & Calvard, 2021).

2.5 Lack of Social Support

Women in medical and leadership positions face the challenge of social support due to cultural aspects. The traditional cultural values in most social realities seem to define the limits of anticipated duties, obligations, and claims for women and induce social penalties when violating these boundaries (Kalaitzi et al., 2019a, b). This has made

them feel less supported while in the medical field; hence they end up underperforming in their respective jobs.

According to Rizvi and Hussain (2021), the public's opinion of women in leadership also includes their representation and visibility. Women in leadership roles often face discrimination and lack of visibility in public discourse, the media, and decision-making circles. This lack of exposure may amplify preconceptions and further diminish the contributions and viewpoints of women. There are ongoing initiatives to question and alter societal conceptions about women in leadership in order to solve these issues. For instance, the Saudi Vision 2030 aspires to empower women and encourage their involvement in a variety of industries, including leadership roles (Hakiem, 2022).

2.6 Lack of Role Models

Role models help a person aspire to be like them. In the medical field, role models help develop medical students' professional competence, values, and attitudes are helped by physicians who serve as role models for the students (Botwin, 2022). Clinical abilities, teaching skills, and personal qualities are three essential components that should be present in a healthy role model. Because there are few ladies in medical leadership positions, most of the ladies who enter those positions have lacked role models and thus have difficulties when faced with issues that need guidance to solve them. The lack of female mentors and role models in senior roles may be discouraging and stifle women's confidence and goals. Without realistic and approachable mentors, women can find it difficult to overcome the difficulties they face in their jobs and see their own route to leadership. Additionally, the difficulties women have may be made worse by the lack of official efforts and mechanisms that encourage their professional development. It is possible that women may not have access to resources, training opportunities, or programs designed to meet their unique needs and circumstances (Harun et al., 2022). As a consequence, there may be a lack of confidence, skill gaps, and few opportunities for job advancement.

2.7 Unequal Pay

The wage gap between men and women is closing, but women in executive roles still make 8% to 25% less than males in similar roles (Botwin, 2022). In the medical industry, not only are women less likely to get to the top positions than men, but they are also likely to earn less than their male colleagues once they reach the C-suite. Alshareef et al. (2020) argue that unequal pay is affected by a variety of cultural, sociological issues. Although the organizations have made progress in recent years, there are still considerable gaps between the genders. Women's labor may be undervalued, and their earning potential may be reduced as a result of traditional gender roles and expectations that place men in the position of breadwinners and women in the role of caretakers. Occupational segregation is one of the main causes of uneven compensation. This occupational segregation contributes to the wage gap by devaluing and underpaying those professions that mostly employ women. Uneven pay is also a result of discrimination and gender prejudice in recruiting, promotion, and recruitment procedures. Biases and preconceptions may result in women being passed over for jobs with greater salaries or receiving

lower compensation than their male colleagues (Galloway, 2020). These differences may become much more pronounced if compensation structures and negotiating procedures are opaque.

3 Methodology

A quantitative research method was used to measure and quantify variables. Women in leadership roles in the medical field were the criterion therefore non-probability sampling technique was used. Ninety-one female medical professionals made up the sample size. To collect the data, the questionnaires were coded in survey monkey, and the link for accessing the questions was shared with the study participants through social media handles such as email addresses, messages, and WhatsApp. The data analysis process was conducted using the statistical software SPSS. Descriptive statistics such as percentage, mean, median, mode, and standard deviation were conducted.

3.1 Analysis

To identify key challenges, a review of literature were conducted, findings of the study revealed that the significant challenges that women in leadership positions facing are; gender bias, work-life balance, working conditions, family support, social support, role model, unequal pay, and career development. However, to know which among is the most influencing challenge(s) a descriptive study were conducted.

3.2 Results

Women in executive roles in the Saudi Arabian healthcare sector have significant challenges with work-life balance. The data shows a distinct pattern of growing difficulties in achieving work-life balance as only 12.1% of the 91 participants said their work-life balance had not been negatively impacted While a somewhat bigger number (31.9%) claimed it hurt them a little more, 27.5% of individuals said work-life balance hurt them a little, 24.2% indicating that it makes them feel worse and 4.4% percent stated it hurts them the most. This is an indication that most female healthcare professionals experience challenges when it comes to balancing their work and life.

Similarly, with respect to work conditions, only 15% leaders feel satisfied with their current work environment. The majority of participants reported they were affected by the working conditions with (29.7%) acknowledging that their work settings bothered them a little, 26.4% of participants said that their jobs made them feel a little hurt, 16.5% said their workplace made them feel even worse. Important insights can be drawn from this research on family, according to the results, most respondents (61.5%) claimed that receiving support from family does not harm them. This data implies that a significant proportion of female executives in the healthcare sector have enough support from their families, which probably helps them manage their professional and personal lives and enjoy their jobs more generally.

31.9% claimed that having female role models does not negatively affect them. This shows that many female executives have access to strong female role models in their industry, which is likely a source of motivation and inspiration for their professional development. 68.1% reported that the absence of female role models detrimentally impacted their professional experiences.

With regard to distributive justice, 28.6% indicated they are not hurt by the unequal pay. However, most responders did, report some degree of a negative impact, highlighting the issue's prevalence, with 17.6% saying it hurts them slightly, while 15.4% say it hurts them slightly more. Additionally, 20.9% of interviewees said receiving unequal pay makes them feel worse, and 17.6% indicated it makes them feel worst. This implies that female executives still face more difficult obstacles to obtaining fair and equitable compensation for their leadership jobs.

The findings emphasize the existence of gender prejudices and discriminatory behaviors that limit the professional advancement of female leaders and show a lack of equitable possibilities for career advancement. The findings suggest that female leaders may not have the same access to advancement opportunities, although 17.6% of participants said it does not impact them. However, most respondents reported that lack opportunities for career growth greatly affect their work experiences. 20.9% of respondents said that career advancement harms them a little, while twenty-two percent said it hurts them more, and some bothers them even more. These results imply that a sizable proportion of female executives face difficulties and roadblocks in progressing in their professions, which results in emotions of frustration and dissatisfaction.

The findings show that female leaders receive various levels of social support, which impacts their overall performance, job satisfaction, and general well-being. Most participants (38.5%) claimed that social support does not hurt them implying that a significant percentage of female leaders experience enough social support, which is likely to favorably impact their job happiness and general leadership effectiveness. Social support may be a vital source of inspiration, drive, and mental health for these professionals, empowering them to face the difficulties of their leadership responsibilities with assurance.

As can be seen in Table 1, the average score for "Work-Life Balance", "Working Condition", "Unequal Pay/Distributive Justice," and "Career Advancement" is 3.00. This indicates that the four are the main challenges women in leadership positions in the healthcare industry face. Among the four using the standard deviation with the lower presenting the highly ranked, the work-life balance is ranked the highest since it has the lower standard deviation of 1.074. Followed by the working condition, which has a standard deviation of 1.24025. Third, the career advancement, which has an S.D of 1.36214, and lastly, the unequal payment with a S. D of 1.49006.

Table 1. Descriptive Statistics

Measurement Scale	Valid	MD	Mode	SD
When thinking about your job/current experience at health care sector, how would you rate WORK LIFE BALANCE that may or may not hurt you	91	3	3	1.074
When thinking about your job/current experience at health care sector, how would you rate WORKING CONDITION that may or may not hurt you	91	3	2	1.240
When thinking about your job/current experience at health care sector, how would you rate FAMILY SUPPORT that may or may not hurt you	91	1	1	1.243
When thinking about your job/current experience at health care sector, how would you rate SOCIAL SUPPORT that may or may not hurt you	91	2	1	1.15
When thinking about your job/current experience at health care sector, how would you rate FEMALE ROLE MODEL EXISTENCE that may or may not hurt you	91	2	1	1.283
When thinking about your job/current experience at health care sector, how would you rate UNEQUAL PAY/ DISTRIBUTIVE JUSTICE that may or may not hurt you	91	3	1	1.490
When thinking about your job/current experience at health care sector, how would you rate CAREER ADVANCEMENT that may or may not hurt you	91	3	3	1.362

Anchored by (not hurt, hurts little bit, hurts little more, hurts even more, and hurts whole worst)

Note: MD = Median, SD = Standard deviation

4 Discussion and Conclusions

Globally, women in leadership confront several obstacles rooted in institutional structures, cultural prejudices, and societal conventions. These barriers prevent advancement across many industries, including the medical field, limiting their potential. Gender prejudice and discrimination are among the significant issues noted. Women who hold leadership sometimes struggle with implicit biases brought on by views of male superiority reinforced by male-dominated roles. They are limited to particular industries and jobs by stereotypical leadership concepts, which hinders professional advancement.

The Saudi Arabian health sector is rapidly evolving, with women increasingly becoming numerous in leadership positions. The health sector strives for inclusivity, making it crucial to comprehend the challenges women leaders face during their professional development. This research analyses the multifaceted professional challenges women face in executive positions focusing on specific challenges that impact their normal functioning as care providers. From the analysis, the working-life balance was the top among the four main challenges women in leadership positions face in Saudi Arabia. This analysis aligns with the survey results proven by Alobaid et al. (2020) and Kalaitzi et al. (2019a, b), who highlighted a common problem in this area, with many participants reporting that work-life balance negatively impacts their performance.

On family support, study, like Kalaitzi et al. (2019a, b), indicated that women in leadership positions are experiencing a challenge in family support as they are still perceived to be caregivers. Alhajiri & Pierce (2022) showed that career women face challenges with family support due to the traditional roles the women are still assumed to be playing. From the analysis it is evident that family support is not a significant challenge in Saudi Arabia as most of the women 61.5% of all the participants indicated that they are not hurt when it comes to being supported by family; this is an indication that the Saudi Arabia have started evolving and seeing women as equal with their male counterparts. This is also an indication of the reforming efforts that Saudi Arabia's government introduced to empower women to take the lead when it comes to decision-making and be an efficient and active member in the society.

Significant challenges are also posed by cultural and societal standards, particularly in conservative environments where traditional gender roles constrain prospects for women, as explained by Saleem et al. (2022). These factors influence how women are treated in the healthcare sector affecting their work conditions, work-life balance, family and social support, and other relevant themes contributing to their well-being. Cultural stereotypes and perceptions that link leadership to masculinity encourage hostility and prejudice towards women in administration. Cronyism, exclusion, and distributive justice concerns further impede women's success by preventing them from accessing the needed networks and referrals. Comprehensive efforts at the individual and institutional levels are required to address these issues.

The assessment of the working environment provides crucial perspectives on how women executives see their workplace. The diversity of responses from the survey demonstrates how complicated this problem is. From the analysis, the working condition has been categorized as a significant challenge and ranked second as the highest percentage of participants expressed dissatisfaction with their existing working conditions. This finding is in line with the arguments of Phillips et al. (2016), highlighting

the significance of improving working conditions to foster an atmosphere supporting female leaders' success and job satisfaction in the healthcare sector.

In the journey of female medical professionals seeking leadership positions, the existence of female role models is a crucial factor. The importance of role models is documented by Botwin (2022), emphasizing the contribution that female role models may make to developing and empowering female leaders, especially in the healthcare sector. Although the lack of female leadership still affects some participants, the challenge doesn't have a major significance, showing that a good percentage of women have role models to look up to.

The healthcare industry faces a serious problem with disparities in pay and distributive justice. However, the country strives to eliminate this challenge in various sectors. Alshareef et al. (2020) explain the factors behind this challenge which is demonstrated by the findings in this study. The findings align with the analysis as it is observed that unequal payment is still among the major challenges women in leadership positions face. Meaning there is still discrimination in the workplace when it comes to payment.

Career growth is a crucial area of concern for women in leadership roles in the Saudi healthcare sector. Uneke & Uneke (2021) attest that female leaders are still facing discrimination making it more difficult for them to advance in their career journeys. This argument is in line with the findings of this study which reveals that some respondents indicated happiness, and most reported barriers and difficulties moving their professions further. Career advancement is among the major challenges identified, being ranked at the third position. The findings highlight the need for initiatives to eliminate gender biases and offer equitable chances for career advancement.

4.1 Implications of the Findings

The study's implications highlights how urgent it is to solve these issues to enhance diversity, gender equality, and organizational success. These findings can be used by stakeholders, such as legislators and healthcare leaders, to create supportive policies, empower women in leadership, and drive transformative change. The study also emphasizes the need for greater research and solutions to these problems, which could result in a more inclusive workplace through joint efforts by researchers, organizations, and governments.

4.2 Implications for the Healthcare Sector

According to the findings, disparities in compensation for female leaders in the healthcare industry may contribute to job dissatisfaction, lack of motivation, and unproductivity. Few female executives who do not see the harm of unequal payment may ignore gender equality efforts. Unequal pay negatively influences morale, causing low efficiency and stress, which affects mental health. Furthermore, it may impede talent retention and attraction, potentially leading to the loss of competent workers and stifling industry growth. Critical recommendations for addressing gender disparities in the healthcare sector include establishing transparent compensation policies that ensure equal pay, implementing gender sensitivity training to foster inclusivity, conducting regular pay audits with internal and external participation, initiating leadership diversity programs

to increase women's representation, introducing flexible work policies for improved work-life balance, and advocating for gender equality through collaboration.

The study's findings on female medical leaders' career growth in the healthcare sector reveal the presence of gender biases that impede their advancement. This inhibits fair access to opportunities for growth, thus reducing the sector's gain from diversified leadership qualities. The emotional toll of these hurdles causes female executives to be frustrated, affecting their job satisfaction, motivation, and total contributions. Furthermore, unequal opportunities may result in the loss of necessary talent and lower workplace morale and productivity. Addressing these issues is critical to creating a more inclusive, egalitarian, and effective healthcare system. The health sector could launch mentorship and sponsorship initiatives, ensure equal access to leadership opportunities, implement bias awareness training, base progress on performance, create flexible career paths, enforce leadership accountability, improve transparency in promotion procedures, and collaborate with stakeholders for representation and advocacy to promote gender parity and career advancement for female leaders in the healthcare sector.

Working conditions among female medical executives have various effects on well-being, highlighting the complexities of healthcare sector contexts. The majority of responses from the study show that negative consequences cause widespread stress, potentially lowering job satisfaction and impeding performance and commitment. These conditions may increase turnover rates, putting experienced personnel at risk and threatening continuity while compromising work-life balance and potentially leading to burnout and reduced dedication to the industry. Addressing these issues is critical for developing a healthier and more supportive work environment in the healthcare industry.

The Healthcare sectors can foster a supportive environment, prioritize physical and emotional health, implement wellness programs, offer flexible working arrangements, establish conflict resolution techniques, and use employee feedback to improve the working conditions and wellbeing of female medical leaders. Moreover, the health sector can promote inclusion and diversity and encourage transparent leadership communication to enhance workplace conditions.

4.3 Limitations of the Research

The study primarily addressed the difficulties Saudi Arabian women face in leadership roles in the healthcare industry. This narrow focus might not adequately convey the complex difficulties experienced by women in leadership positions in other industries or various cultural situations. Furthermore, the study's dependence on participants' self-reported data raises the possibility that the responses contain biases or errors. The sample size and selection procedure should also be acknowledged as possible limitations that may affect the extent to which the results can be applied.

4.4 Conclusion

The results of this study revealed that work-life balance, working conditions, career advancement, and unequal pay are ranked as the most significant challenges female healthcare leaders face. The working-life balance was ranked as the most significant challenge, with most participants acknowledging having trouble juggling their job and

family commitments, highlighting the need for more accommodating workplace regulations and practices that help women handle both responsibilities successfully. The study's findings also revealed the continuation of unequal compensation and career advancement as among the top challenge. This emphasizes the requirement for businesses to set up remuneration plans that somewhat acknowledge and honor the accomplishments of women executives.

When it comes to family support, most indicated not experiencing any challenge in this area, but still, a small percentage is experiencing it as a significant challenge.

It is very essential to acknowledge the transformative impact of Vision 2030 in supporting women in leadership roles in Saudi Arabia. This visionary initiative has paved the way for significant progress by recognizing the importance of gender equality and empowering women across all sectors, including healthcare. By leveraging the principles of Vision 2030, healthcare organizations can seize the opportunity to foster an inclusive environment that enables women leaders to thrive. By implementing comprehensive strategies that encompass workplace policies, cultural shifts, mentorship programs, and initiatives to address gender-based disadvantages, healthcare organizations can create an atmosphere where women leaders can fully contribute, realize their potential, and drive positive change. This not only benefits individual women but also leads to a more equitable and effective healthcare system that improves outcomes for all. Organizations can embrace this transformative vision and work towards a future where women in healthcare leadership are empowered and celebrated.

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Revisit Intention Post Covid-19: Destination Social Responsibility, Destination Image, and Perceived Health Risk at the Five Super Priority Destination

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Abstract. Exploring the Effect of Destination Image and Social Responsibility on Tourists' Revisitation Intentions in the Post-Covid-19 Era, with perceived health risk as a moderating factor. Research take place in five super priority destinations in Indonesia. It adopts a descriptive research design with a quantitative approach, gathering primary data through the distribution of questionnaires. This research involved 234 members of the community tourism group (Generasi Pesona Indonesia/GenPI). The methods used for data analysis include descriptive analysis and Partial Least Squares (PLS) analysis, with a significance level set at 5%. The research outcomes reveal the following: (a) The social responsibility of a destination exerts a noteworthy and beneficial influence on tourists' intentions to revisit, (b) The image of a destination exerts a substantial influence on tourists' intentions to revisit, (c) The perceived health risk does not act as a moderating factor in the connection among destination social responsibility and tourists' intention to revisit, (d) The perceived health risk does indeed moderate the influence of the destination's image on tourists' intention to revisit, with this moderating effect being negative in nature.

Keywords: Revisit intention · Post Covid-19 · Destination social responsibility · Destination image · Perceived health risk

1 Introduction

Tourism plays a substantial role in Indonesia's economic landscape, making a noteworthy contribution to the nation's foreign currency earnings and generating job prospects. From 2013 to 2019, the tourism sector in Indonesia demonstrated consistent growth in its contribution to the country's economy. In 2019, the tourism sector constituted 4.7% of the Gross Domestic Product (GDP) [19].

However, the government's plans faced challenges due to the economic downturn in early 2020, primarily within the tourism sector, brought about by a sharp decline in both international and domestic tourists [20]. The onset of the Covid-19 pandemic belonged a significant and detrimental effect on the tourism industry, primarily attributed

to unprecedented restrictions on mobility and travel [13]. Many nations adopted measures that constrained individuals' mobility, temporarily closed tourist destinations, and postponed events and business operations, aligning with the guidelines established by the World Health Organization (WHO) [17]. The detrimental repercussions of Covid-19 were also felt in tourism destinations across all 34 provinces of Indonesia, including the five super-priority tourist destinations: Mandalika, Borobudur, Likupang, Labuhan Bajo, and Lake Toba [19].

Destination Social Responsibility is a critical factor that must be determined in times of crises, such as Covid-19, in tourist destinations [15]. Social responsibility activities within a destination can generate good sentiment among tourists and enhance the destination's competitiveness [36]. The adoption of Destination Social Responsibility is regarded as one of the most efficacious strategies for tourism-centric organizations to diminish or alleviate the adverse consequences of excessive natural resource exploitation and over-tourism [34]. Destination Image, encompassing a tourist's emotional beliefs, impressions, and perceptions of a destination, plays a pivotal role in influencing tourist behavior and decision-making [2]. Good perceptions of a destination's image increase the likelihood of tourists wanting to revisit [9].

Another pivotal determinant influencing Revisit Intention in the post-Covid-19 era is Perceived Health Risk, characterized as an individual's assessment of potential adverse outcomes when engaging in product or service consumption [31]. Health risks, psychological risks, and social risks are three types of perceived risks that tourists may consider when planning post-Covid-19 travel [25]. Perceived health risk is particularly important in shaping travel intentions [16].

We propose the conceptual model showed in Fig. 1, which incorporates the four hypotheses formulated according to on the literature review.

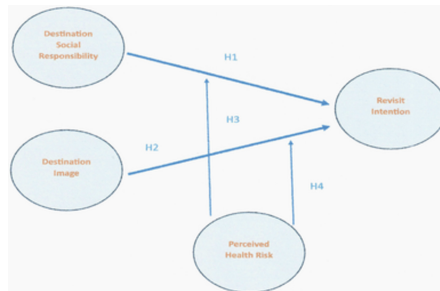


Fig. 1. Conceptual model

2 Theoretical Background

2.1 Theory

2.1.1 Destination Social Responsibility (DSR)

The evolution of tourism can yield both beneficial and adverse effects on society, culture, and the environment [37]. From an objective standpoint, the tourism industry must adopt social responsibility as a means to mitigate the adverse repercussions of tourism expansion [36]. The sustainable development of a destination necessitates the active participation and collaboration of all stakeholders, encompassing both the private and public sectors. When stakeholders engage collectively and proactively, tourists perceive it as the manifestation of destination social responsibility [37].

Destination social responsibility belongs to the potential to evoke good emotions in tourists, thereby motivating them to prioritize destinations that prominently demonstrate responsible behavior toward the environment [36]. Evidence shows that destination social responsibility initiatives have a demonstrable effect on enhancing destination competitiveness and fostering the sustainability of tourism destinations [34].

2.1.2 Destination Image (DI)

Destination Image can be characterized as a composite of a traveler's emotions, beliefs, thoughts, and impressions regarding a destination [10]. The role of destination image is pivotal in shaping tourists' decisions regarding their choice of destination, their anticipated experiences, satisfaction levels, loyalty, as well as their intentions to revisit or recommend it to others [43].

Travelers typically prefer to select tourist destinations that possess a good and favorable image [21]. The cultivation of a good post-trip destination image proves to be a more formidable task in ecotourism regions, as it necessitates a foundation rooted in the sustainable utilization of natural resources [22]. The selection of a tourist destination is primarily effected by the destination image, which stands as the most pivotal factor in this decision-making process [6]. Destination image can be effected by three key factors: cognitive, affective, and conative factors [3].

2.1.3 Perceived Health Risk (PHR)

Perceived risk pertains to an individual's perception of uncertainty and the possibility of adverse outcomes linked to the acquisition of a product or service [31]. In the context of tourism, perceived risk can be comprehended as the potential uncertainties associated with traveling to a specific destination [23]. The global health crisis induced by the Covid-19 pandemic, characterized as a perceived health risk, belonged to a direct and profound effect on the tourism sector.

Perceived health risk in the tourism sector potentially threatens travelers' health during their journeys and tourism activities [27]. Health perceived risk is a critical aspect to consider when planning travel to reduce safety and security threats to tourists [18]. Health issues are a crucial factor in determining travel behavior [16]. Therefore, there is a need for adaptation among tourists and stakeholders in the tourism industry to return to

normal tourism activities. Perceived health risk and the tourism sector can be connected through three stages: pre-travel, during travel, and post-travel [28].

2.1.4 Revisit Intention (RI)

Revisit intention is a form of consumer behavior following the purchase of goods or services (post-purchase behavior). It refers to the tendency of visitors to return for future visits [24], indicating their loyalty to revisiting a service or repurchasing the same product. In the context of tourism, revisit intention is a behavioral factor that reflects a visitor's desire to revisit a previously explored tourist destination [40]. Tourists are more inclined to revisit a destination, offer good word-of-mouth recommendations, and suggest it to others when they experience satisfaction during their visit [1].

Revisit intention encompasses behaviors such as returning for subsequent visits, sharing good word-of-mouth feedback, extending the duration of the visit, and spending more than initially expected [42]. This concept also influences tourists' recommendations to other travelers, family, and friends, as satisfied tourists can become effective marketing channels and good effect loyalty [32].

2.2 Hypothesis

2.2.1 The Influence of Destination Social Responsibility (DSR) on Revisit Intention (RI)

Destination social responsibility exerts a good influence on tourist satisfaction, subsequently fostering a good effect on tourists' intentions to revisit the destination. Empirical research has demonstrated that destination social responsibility significantly influences the intention to revisit [38]. This influence persists even in the midst of the Covid-19 pandemic [15].

According to the explanations, the first hypothesis proposed is:

H1: Destination social responsibility goodly influences revisit intention.

2.2.2 The Influence of Destination Image (DI) on Revisit Intention (RI)

Research shows that a destination characterized by a favorable image is more likely to be chosen for a visit when compared to one with a negative image [29]. Furthermore, all dimensions of destination image, including cognitive, affective, and conative aspects, exhibit a significant and good effect on revisit intention [35]. Another research study, as cited in reference [44], observed a significant good influence of destination image on revisit intention. Additionally, this study highlighted that destination image can affect both tourists who have visited the destination and those who have not, even amidst the challenges posed by the Covid-19 pandemic [30].

According to the explanations, the second hypothesis proposed is:

H2: Destination image goodly influences revisit intention.

2.2.3 Perceived Health Risk (PHR) as Moderate Variable

In the context of tourism, perceived risk can be construed as the probability of encountering uncertainties that could arise during a journey to a travel destination [23]. The Covid-19 pandemic belong precipitated a worldwide health crisis, directly affecting the tourism sector. Within the tourism industry, perceived health risk pertains to potential hazards to tourists’ well-being during travel and tourism-related activities [27]. Health perceived risk is a crucial consideration in tourism to reduce safety and security threats for tourists [18]. Health issues are a primary factor in determining travel intentions [16].

Perceived risk can be understood as the probability of tourists participating in activities that entail manageable or uncontrollable hazards, influencing their choice to visit a destination [8]. A low level of perceived risk goodly influences tourists’ decisions to visit, whereas higher levels of perceived risk have a negative effect on the decision to visit [39]. Perceived risk exerts a notably good effect on destination image, thereby indirectly influencing tourists’ intentions to revisit the tourism destination [33]. Furthermore, another research study also identified a significant good effect of perceived risk on revisit intention [7].

According to on the explanations, the third and fourth hypotheses proposed are:

H3: Perceived health risk serves as a moderating factor in the effect of destination social responsibility on revisit intention.

H4: Perceived health risk serves as a moderating factor in the effect of destination image on revisit intention.

3 Materials and Methods

3.1 Subject

The five Super Priority Destinations of Indonesia are the research locations where the researchers aim to evaluate the extent to which the government belong developed these areas.

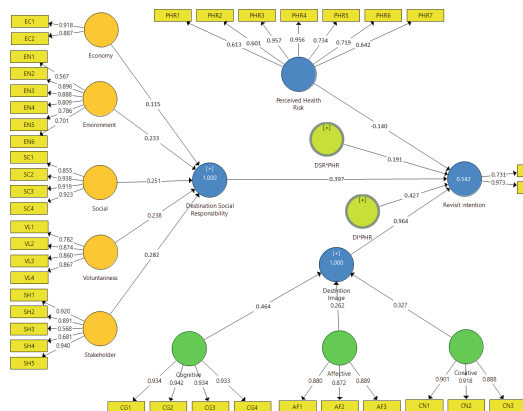


Fig. 2. Reliability of individual indicators

For assessing the reliability of individual indicators or items associated with each of the variables (as depicted in Fig. 2), the PLS algorithm was employed.

The study aims to understand how these destinations can attract tourists for repeat visits, which is crucial for generating a stable income and also plays a role in disseminating information to new tourists [7].

The research population consists of GenPI (Generasi Pesona Indonesia), a community formed by the Ministry of Tourism and Creative Economy, believed to be representative in addressing the research questions. Researchers conducted a Google Form survey distributed to GenPI communities in various provinces of Indonesia. Out of the 256 respondents who submitted their responses through the Google Form, Twenty-two respondents were excluded from the study as they did not meet the research criteria. Consequently, the final sample size for the study comprised 234 respondents.

The questionnaire utilized in this study was created through an extensive literature review drawing from multiple sources [3, 4, 12, 38, 41]. It encompassed 10 dimensions and included a total of 40 questions that were presented to the respondents.

3.2 Methodology

The validity and reliability of the questionnaire items were evaluated in accordance with measurement criteria [14]. The variables measured in this study include the independent variables: destination social responsibility (DSR), destination image (DI), perceived health risk (PHR), and the dependent variable, revisit intention (RI). In this study, data analysis and hypothesis testing were performed employing the partial least squares (PLS) method, which is well-suited for analyzing small sample sizes. The analysis was carried out using SmartPLS version 3.

4 Outcome

In the partial least squares (PLS) analysis, the measurement model (outer model) is employed to evaluate the Validity of the instruments, as depicted in Table 1. The application of the rule of thumb with loadings > 0.70 and AVE > 0.50 shows that these indicators sufficiently represent and measure the desired constructs in the research [14].

4.1 Evaluation of the Measurement Model: Approvedity and Reliability

To evaluate the measurement model using PLS, several critical facets were scrutinized, encompassing individual item reliability, scale reliability, convergent validity, and discriminant validity [5]. For assessing the individual reliability of indicators within each variable, the PLS algorithm was employed, and items with factor loadings equal to or exceeding 0.700 were determined confirmed [14].

To evaluate the model's discriminant validity, cross-loadings were examined in accordance with the suggested criterion [5]. According to this criterion, the factor loading among an item and its designated variable (as showed in Table 2) should exceed the factor loading with other variables determined within the model [14].

In this analysis, reliability was evaluated using Cronbach's alpha, with a threshold value set at 0.7 or higher [11]. Table 3 illustrates how all the constructs fulfilled the reliability criterion.

4.2 Assessment of the Structural Model

Following the confirmation of the measurement model's Validity, the outcomes of the structural analysis are presented in Table 4, with bootstrapping chosen as the statistical method [14].

The outcomes of the initial measurement model testing in Table 1 reveal that certain parameters (indicators) within the construct variables of each variable dimension fail to exhibit outer loading values exceeding 0.70 (>0.70). The not approved indicators (invalid) include EN1, SH3, SH4, PHR1, PHR2, and PHR7. These not approved indicators have been excluded from the analysis, and a second loading test belong been conducted.

In the outcomes of the model second loading testing, it is observed that all indicators are now deemed Approved, as each indicator examined in this belong attains outer loading values exceeding 0.70. Furthermore, the calculated AVE values also exceed the threshold of 0.50, thereby confirming that the specified criteria have been satisfied [14].

According to on the outcomes of all measurements, including outer loading values and AVE values, the criteria for convergent validity are satisfied. All indicators in each dimension at this testing stage are valid and are retained for further analysis.

According to on the outcomes of the hypothesis testing, as presented in Table 4, three hypotheses (H1, H2, H4) receive support, whereas one hypothesis (H3) does not find support. A significance level of 5% was used.

Table 1. Outcomes of First Loadings and Second Loading

Indicators	First Loading		Note	Second Loading		Note
	Loading	AVE		Loading	AVE	
EC1	0,918	0,814	Valid	0,918	0,814	Valid
EC2	0,887		Valid	0,887		Valid
EN1	0,567	0,613	Invalid	–	0,677	–
EN2	0,896		Valid	0,893		Valid
EN3	0,888		Valid	0,890		Valid
EN4	0,809		Valid	0,817		Valid
EN5	0,786		Valid	0,786		Valid
EN6	0,701		Valid	0,715		Valid
SC1	0,855		0,827	Valid		0,855
SC2	0,938	Valid		0,938	Valid	
SC3	0,919	Valid		0,919	Valid	
SC4	0,923	Valid		0,923	Valid	
VL1	0,782	0,717	Valid	0,781	0,717	Valid
VL2	0,874		Valid	0,874		Valid
VL3	0,860		Valid	0,860		Valid
VL4	0,867		Valid	0,868		Valid

(continued)

Table 1. (continued)

Indicators	First Loading		Note	Second Loading		Note
	Loading	AVE		Loading	AVE	
SH1	0,920	0,662	Valid	0,943	0,899	Valid
SH2	0,891		Valid	0,936		Valid
SH3	0,567		Invalid	–		–
SH4	0,681		Invalid	–		–
SH5	0,940		Valid	0,966		Valid
CG1	0,934	0,875	Valid	0,934	0,875	Valid
CG2	0,942		Valid	0,942		Valid
CG3	0,934		Valid	0,934		Valid
CG4	0,933		Valid	0,933		Valid
AF1	0,880	0,775	Valid	0,880	0,775	Valid
AF2	0,872		Valid	0,872		Valid
AF3	0,889		Valid	0,889		Valid
CN1	0,901	0,814	Valid	0,901	0,814	Valid
CN2	0,918		Valid	0,918		Valid
CN3	0,888		Valid	0,888		Valid
PHR1	0,613	0,576	Invalid	–	0,775	–
PHR2	0,601		Invalid	–		–
PHR3	0,957		Valid	0,970		Valid
PHR4	0,956		Valid	0,975		Valid
PHR5	0,734		Valid	0,809		Valid
PHR6	0,719		Valid	0,743		Valid
PHR7	0,642		Invalid	–		–
RI1	0,731	0,732	Valid	0,732	0,732	Valid
RI2	0,964		Valid	0,964		Valid

After the Testing of second loading, 34 indicators that were still approved (valid) and reliable and then used in hypothesis testing.

Table 2. Cross-loading

Inc.	DSR					DI	PHR	Revisit Inten	AVE		
	EC	EN	SC	VL	SH	CG	AF	CN			
EC1	0.918	0.597	0.797	0.720	0.789	–0.594	–0.713	–0.480	–0.025	–0.324	0.902
EC2	0.887	0.493	0.808	0.640	0.539	–0.288	–0.448	–0.188	–0.006	–0.095	
EN2	0.520	0.896	0.586	0.480	0.489	–0.344	–0.506	–0.298	–0.045	–0.010	
EN3	0.524	0.888	0.569	0.442	0.446	–0.300	–0.472	–0.295	–0.045	–0.031	
EN4	0.306	0.809	0.448	0.379	0.420	–0.423	–0.520	–0.426	–0.016	–0.159	
EN5	0.357	0.786	0.420	0.425	0.457	–0.406	–0.467	–0.433	–0.006	–0.129	

(continued)

Table 2. (continued)

Inc.	DSR					DI	PHR	Revisit Inten	AVE		
	EC	EN	SC	VL	SH	CG	AF	CN			
EN6	0.691	0.701	0.691	0.783	0.861	-0.697	-0.776	-0.591	0.033	-0.329	
SC1	0.775	0.398	0.855	0.649	0.621	-0.439	-0.562	-0.298	0.031	-0.191	0.909
SC2	0.858	0.664	0.938	0.803	0.824	-0.617	-0.754	-0.481	0.007	-0.282	
SC3	0.781	0.714	0.919	0.704	0.654	-0.498	-0.646	-0.397	0.045	-0.167	
SC4	0.813	0.640	0.923	0.722	0.691	-0.542	-0.681	-0.425	-0.018	-0.219	
VL1	0.489	0.452	0.522	0.782	0.700	-0.817	-0.673	-0.775	0.010	-0.554	0.847
VL2	0.709	0.574	0.775	0.874	0.736	-0.563	-0.695	-0.450	-0.069	-0.161	
VL3	0.564	0.510	0.550	0.860	0.783	-0.740	-0.704	-0.685	-0.019	-0.419	
VL4	0.767	0.571	0.809	0.867	0.763	-0.536	-0.710	-0.478	-0.015	-0.204	
SH1	0.756	0.640	0.730	0.817	0.920	-0.706	-0.778	-0.594	-0.010	-0.348	0.814
SH2	0.823	0.601	0.812	0.823	0.891	-0.648	-0.755	-0.509	-0.049	-0.241	
SH5	0.795	0.685	0.787	0.825	0.940	-0.723	-0.803	-0.582	-0.046	-0.276	
CG1	-0.298	-0.424	-0.417	-0.665	-0.691	0.934	0.721	0.887	0.036	0.574	0.935
CG2	-0.371	-0.447	-0.449	-0.690	-0.690	0.942	0.746	0.860	0.017	0.531	
CG3	-0.631	-0.576	-0.675	-0.782	-0.830	0.934	0.834	0.769	0.001	0.552	
CG4	-0.576	-0.544	-0.632	-0.751	-0.845	0.933	0.821	0.792	0.034	0.515	
AF1	-0.614	-0.697	-0.770	-0.733	-0.776	0.718	0.880	0.671	0.072	0.225	0.880
AF2	-0.493	-0.512	-0.563	-0.704	-0.718	0.623	0.872	0.640	0.038	0.224	
AF3	-0.609	-0.588	-0.601	-0.730	-0.786	0.841	0.889	0.817	-0.044	0.685	
CN1	-0.365	-0.422	-0.405	-0.606	-0.641	0.777	0.709	0.901	0.069	0.655	0.902
CN2	-0.240	-0.438	-0.323	-0.509	-0.580	0.776	0.701	0.918	0.064	0.544	
CN3	-0.426	-0.504	-0.473	-0.749	-0.738	0.838	0.787	0.888	0.011	0.474	
PHR3	-0.020	-0.031	0.019	-0.034	-0.060	-0.001	0.005	0.028	0.957	-0.151	
PHR4	0.017	0.012	0.045	-0.005	-0.046	-0.007	0.005	0.024	0.956	-0.163	
PHR5	0.017	-0.014	0.010	0.002	-0.055	0.043	0.033	0.070	0.734	-0.071	
PHR6	0.006	-0.047	0.001	0.000	-0.031	0.026	0.031	0.072	0.719	-0.021	
RI1	-0.020	0.166	0.028	-0.010	-0.062	0.203	0.216	0.187	-0.019	0.731	0.856
RI2	-0.297	-0.274	-0.314	-0.449	-0.435	0.645	0.570	0.686	-0.121	0.964	

Table 3. Composite reliability and convergent validity

	Cronbach's Alpha	rho_A	Composite Reliability	AVE
AF	0.856	0.865	0.912	0.775
EC	0.773	0.786	0.898	0.814

(continued)

Table 3. (continued)

	Cronbach's Alpha	rho_A	Composite Reliability	AVE
VL	0.868	0.875	0.910	0.717
CG	0.953	0.953	0.966	0.875
CN	0.886	0.886	0.929	0.814
EN	0.871	0.897	0.903	0.613
SH	0.870	0.926	0.904	0.662
PHR	0.880	0.970	0.902	0.576
RI	0.687	1.145	0.843	0.732
SC	0.930	0.937	0.950	0.827

Table 4. Structural model outcome

	Structural	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEVI)	P Values	
Direct Effect							
H1	Destination Social Responsibility -> Revisit Intention	0.394	0.390	0.095	4.135	0.000	SUPPORTED
H2	Destination Image -> Revisit Intention	0.942	0.943	0.092	10.271	0.000	SUPPORTED
	Perceived Health Risk -> Revisit Intention	-0.161	-0.167	0.076	2.133	0.033	
Moderate Effect							
H3	DSR*PHR -> Revisit Intention	0.197	0.202	0.118	1.668	0.096*	NOT SUPPORTED
H4	DI*PHR -> Revisit Intention	0.411	0.383	0.161	2.545	0.011	SUPPORTED

5 Conclusions and Recommendations

5.1 Conclusions

Drawing conclusions from the data analysis and hypothesis testing, it can be inferred that destination social responsibility exerts a significant good effect on tourists' intention to revisit at super priority destinations in Indonesia. Furthermore, it is evident that destination image also exerts a significant good influence on tourists' intention to revisit at super priority destinations in Indonesia. Perceived health risk does not moderate the connection among destination social responsibility and revisit intention significantly. Nevertheless, it is noteworthy that the moderating effect of perceived health risk is in the negative direction. This suggests that a heightened perception of health risk diminishes the effect of destination social responsibility on tourists' intention to revisit. Perceived health risk indeed exhibits a significant moderating effect on the association among destination image and revisit intention, with the moderating effect being negative, as observed. This signifies that an elevated perception of health risk diminishes the effect of destination image on tourists' intention to revisit at super priority destinations in Indonesia.

5.2 Recommendations

In the post-pandemic period, health and safety have become crucial factors affecting tourist destinations. Tourists not only seek attractions at the destination but also demand assurance that they will be protected from disease risks while traveling. Destinations ought to demonstrate adaptability to the evolving requirements and apprehensions of tourists in the post-pandemic era. Implementing strict preventive measures, appropriate health protocols, and providing cleanliness and safety assurance to tourists are essential steps.

Online surveys provide destination with an excellent means to understand tourists requirements. Additionally, by monitoring social media trends, they can assess market dynamics and leverage this knowledge to enhance their organizational growth and boost profits in the upcoming fiscal year [26]. And Establishing an image of a destination as safe and devoid of health risks is an essential strategy for the revitalization of the tourism sector following the pandemic. Tourists will be more interesting to visit destinations that have demonstrated their commitment to implementing strict preventive measures and maintaining cleanliness that will increase their satisfaction during their vacation.

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An Empirical Investigation of Customer Satisfaction in the Relationship Between Service Quality and Customer Loyalty

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Abstract. The retail business in Saudi Arabia, especially online retail, has increased its demand for additional research on service quality (SQ), customer satisfaction, and loyalty. As a result, the current study had two objectives. The first was to comprehend retail customers' attitudes toward SQ, customer satisfaction, and customer loyalty while the second was to investigate the fundamental process underpinning retail customer satisfaction and loyalty. To that end, the current study used a positivist research methodology, a deductive approach, and a quantitative method. Data were collected using a validated questionnaire distributed online among retail customers. Descriptive and inferential statistics were used to assess 150 valid responses. Descriptive statistics-cross tabulation was utilized to ascertain retail consumers' attitudes about customer satisfaction, SQ, and loyalty. SmartPLS 3.0 was utilized to investigate the hypothesised effects. This study found no differences in customer attitudes in terms of customer satisfaction, customer loyalty, and SQ. This research insinuates that Saudi Arabian retailers can develop the same strategy for different demographic groups. The study also discovered the mediating effect of Saudi retail customer satisfaction in the relationship between SQ and customer loyalty. Based on this research, Saudi Arabian consumers value responsiveness and dependability more than the outer appearance of retail enterprises. According to the results, Saudi Arabian retailers should focus more on SQ components to increase customer satisfaction, which will increase consumer loyalty.

Keywords: customer satisfaction · customer loyalty · service quality

1 Background of the Study

Customer loyalty is a customer's preference for and continued purchases from a specific company over an extended period (Ozkan & Tekeli, 2022; Abdur Rehman et al., 2021; Irfan et al., 2018; Hadi et al., 2019). It is integral to customer behavior because recurring business and favorable word-of-mouth recommendations can enhance business revenue and profitability (Al-Maghrabi, 2017). However, companies' services may have low value for customers, which ultimately affects their loyalty. Therefore, companies need

to modify their assumption that service quality (SQ) always leads to customer loyalty. In their study, Irfan et al. (2016) highlighted the important role of customer satisfaction in the relationship between SQ and customer loyalty. They strongly suggested that companies needed to prioritize customer satisfaction over customer loyalty. As a result, the relationship among customer satisfaction, customer loyalty, and SQ has been widely studied in the literature (Shahzad et al., 2021; Ozkan & Tekeli, 2022; Khan et al., 2020). Most of the studies, though, have been conducted in a non-Saudi Arabian context. Some studies have been published in Saudi Arabia (Ahmed et al., 2022), but they represented the banking sector. However, there needs to be more literature examining this relationship from retail customers' perspectives in Saudi Arabia (Khan et al., 2020). Recent developments in Saudi Arabia's retail market, including online retail, have heightened the need for more research on SQ, customer satisfaction, and loyalty. According to a recent report by GlobalData, the size of the retail market in Saudi Arabia is expected to grow by 4% during 2021–2026 (GlobalData, 2022). Therefore, the purpose of this study was to identify the attitude of retail customers towards SQ, customer satisfaction, and customer loyalty and to examine the effect of SQ on customer loyalty via customer satisfaction in the retail sector of Saudi Arabia.

Findings of this study contribute to a better understanding of customer loyalty, SQ, and customer satisfaction from customers' demographic perspectives. Understanding this aspect is crucial because it will enable firms in Saudi Arabia to enhance SQ and customer satisfaction, ultimately leading to improved customer retention. Retail organizations in Saudi Arabia may use these findings to understand better how they can enhance customer loyalty and develop tactics to increase the quality of services provided to their customers. Additionally, this study's findings permit an in-depth investigation of each dimension of SQ as such, contributing to excellent customer service in Saudi Arabia and a deeper understanding of each aspect.

Theoretical background of the study has discussed in next section, this is followed by literature on variables, methodology, data analysis and results. The study findings are discussed in Sect. 4 with limitations, future research directions and implications.

2 Literature Review

2.1 Theoretical Background

Reciprocity theory guided the hypothesized relationships. This theory states that customers are more likely to favor their service provider if that company provides quality services to them (Zulkifli & Yazid, 2020; Mustapha, 2020).

2.2 Service Quality with Dimensions

The service quality (SERVQUAL) model is an industry-standard measure of SQ characteristics. Devised by Paraskevas and Zeithaml in 2000 as a framework for measuring and evaluating SQ, its principles have since been widely accepted and utilized across numerous research studies. The five dimensions comprising its paradigm are dependability, responsiveness, assurance, empathy and tangibility (see Fig. 1).

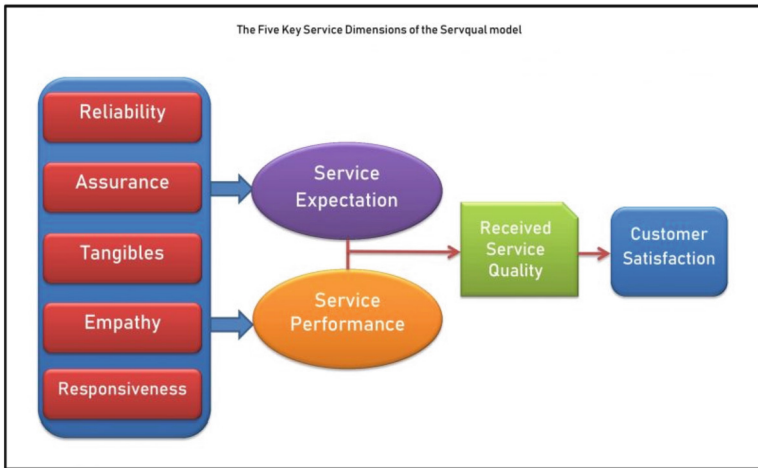


Fig. 1. SERVQUAL Model and its Key Dimensions. Note. (Kobiruzzaman, 2020).

Reliability refers to a service provider's ability to consistently provide services at the required standard (Wu et al., 2020). Responsiveness encompasses a provider's reactions to requests for prompt and beneficial service. Assurance is the ability to instill trust in clients. In contrast, empathy encompasses individual consideration and comprehension extended by service providers to clients. Finally, tangibles include tools or supplies required to provide the service and the physical design of service environments.

2.3 Service Quality and Customer Loyalty

Numerous studies have explored the relationship between SQ and customer loyalty, and their findings showed a clear positive correlation. Researchers have agreed that clients who received higher levels of SQ showed lower propensities to switch providers while being more loyal to one provider over time. Study results have revealed that clients who received higher levels of SQ also were more likely to be pleased with what they received, leading them to remain loyal customers of the provider. Paraskevas and Zeithaml (2000) discovered that two SQ characteristics, reliability and responsiveness, had a direct positive influence on customer satisfaction. Al-Maghrabi (2017) found a similar correlation and discovered that customer SQ had an immediate and beneficial effect on customer loyalty. Paraskevas et al. (2017) indicated that SQ enormously affected customer loyalty in hotel businesses. In the present study, reliability was found to have the greatest influence on customer service, followed by responsiveness, tangibles, and empathy. Verma et al. (2019) and Al-Maghrabi (2017) explored the relationship between providing exceptional customer service and high-quality retail services in Saudi Arabia. Their findings demonstrated a positive correlation between quality of service and customer loyalty, with empathy having the most decisive influence on the customer's experience, followed by dependability, responsiveness, assurance, and tangibles of quality service delivery.

2.4 Service Quality and Customer Satisfaction

Additionally, numerous studies have explored the relationship between providing high-quality service and customer satisfaction. For example, Choudhury and Gunasekaran (2017) investigated the correlation between SQ and customer satisfaction in retail banking markets. According to their findings, SQ had a dramatic influence on customer satisfaction; specifically, responsiveness, assurance, empathy, and tangibles were among the key aspects of SQ that had the greatest influence on customer satisfaction, followed by reliability as an aspect of SQ. Moreover, Javalgi et al. (2017) and Shah and Hadi (2019) investigated the relationship between customer satisfaction and the quality of healthcare service provided in healthcare industries. Their results showed a clear link between SQ and customer satisfaction levels. Empathy strongly influenced customers' satisfaction levels, followed by reliability, responsiveness, assurance, and tangibles.

Likewise, Al-Maghrabi (2017) found that empathy was the factor that most directly impacted customer satisfaction. Research by Wong-On-Wing and Merrilees (2007), Irfan et al. (2016), Hadi et al. (2019), Zhang et al. (2017), Zhang et al. (2019), and Zhong and Moon (2020) also discovered a positive relationship between quality of service provided and customer satisfaction reported by customers. According to Paraskevas and Bouziotas's (2018) findings, customer satisfaction with fast-food restaurants was positively influenced by characteristics such as meal quality, menu variety, pricing, and packaging design.

2.5 Customer Satisfaction and Customer Loyalty

Paraskevas et al. (2019) concluded that high customer satisfaction levels were a predictor of client loyalty within the banking industry. Hadi et al. (2019) and Irfan et al. (2016) also discovered that customer satisfaction accurately predicted consumer loyalty in the telecom sector in Pakistan. Undoubtedly, customer satisfaction and devotion to a brand are interlinked, no matter the form the relationship takes. Companies that offer customer service should prioritize providing high-quality assistance while ensuring that clients are satisfied with what was provided to them.

The link among providing high-quality service, keeping customers happy, and building customer loyalty can be complex and multifaceted, yet businesses should not focus solely on customer satisfaction; understanding all essential viewpoints will allow organizations to formulate more successful strategies to build customer service and retain customers and will provide them with a competitive advantage in doing so.

Based on the above discussion, the following hypotheses were developed:

H1: *A positive and significant relationship exists between SQ and customer satisfaction.*

H2: *The relationship between SQ and customer satisfaction is explained by customer satisfaction.*

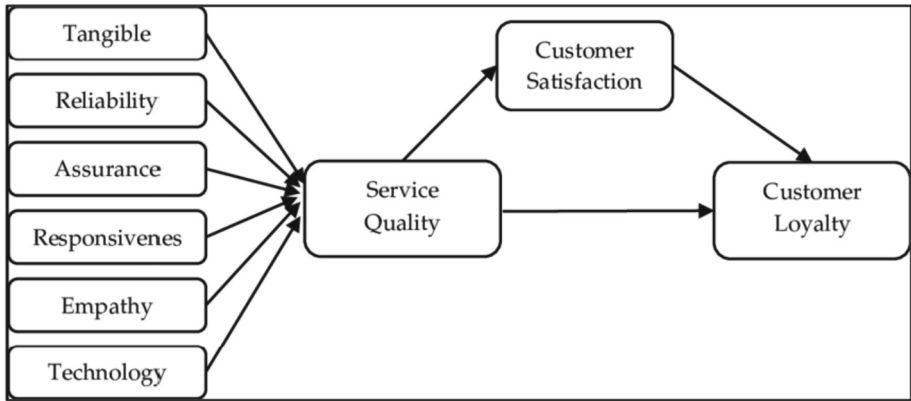


Fig. 2. Theoretical Framework for This Research. *Note.* (Mahmoud et al., 2018).

3 Methodology

This research employed a positivist research philosophy and quantitative data-analysis techniques. Based on the reciprocity framework, the conceptual model as shown in Fig. 2 was developed. The convenience sampling technique was used in this study, and data were collected at one point in time. To prevent biases, we chose initial volunteers from their own networks who were educated and aware of the value of customer loyalty, among other variables. This research used SPSS software for data analysis, and confirmatory factor analysis and mediation analysis were done through SmartPLS. The questionnaire was distributed to 200 participants in Saudi Arabia, of which we received 155 responses. Five responses were removed after the quality check process. Therefore, the final sample size was 150.

3.1 Analysis and Results

There was slightly higher male participation in the sample, with 59% of respondents who were male. Higher participation of males is common in Saudi Arabia, but female participation has increased generally. So, this sample can be considered an ideal population representation. More than 50% of the participants were between the ages of 25 and 54, making up the largest age group. However, those between 25 and 34 years old comprised the large segment in this sample, which is also the largest age segment in Saudi Arabia. Further, many respondents had earned a bachelor's (33.8%) or a master's degree (26.5%). When interpreting the research findings, it is crucial to consider the demographic parameters' potential impact on respondents' SQ, satisfaction, and loyalty ratings.

3.2 Mean Values of Service Quality, Customer Satisfaction, and Customer Loyalty

The average SQ scores were relatively low, at 2.88 on the tangibility scale and 4.04 on the responsiveness scale. There was some dispersion in the importance weights, as indicated

by the extensive range of standard deviations. When broken down, the indicator with the highest mean rating was responsiveness (4.04), demonstrating that Saudi Arabian consumers placed a premium on a company that could swiftly address their concerns. The lowest average rating was for tangibility (2.88), suggesting that customers cared less about the outward appearance of stores and other commercial structures. Customers placed a moderate value on reliability, as indicated by the mean reliability rating of 3.79.

Average levels of customer satisfaction were rather high, spanning a range from a low of 3.78 on the satisfaction scale to a high of 4.29. Likewise, mean scores for customer loyalty were rather high, as well, spanning from 3.7 for cognitive loyalty to 4.11 for frequency of usage. The standard deviations, though, were small, suggesting that the judgements of importance were more consistent than the SQ indices.

For main variables, no differences in the mean scores for males and females were found for SQ, customer satisfaction, or customer loyalty. Similarly, no differences in the mean scores were found for different age categories (18–30, 31–45, 46–60, and 61+). With respect to level of education, no differences existed for customer satisfaction, service quality, or customer loyalty.

3.3 Confirmatory Factor Analysis (CFA)

Table 1 below shows the confirmatory factor analysis (CFA) results of the present study.

Table 1. CFA Results

Indicators	Factor loading	α	CR	AVE	Discriminant validity
Tangibility	0.628	0.873	0.911	0.579	Yes
Reliability	0.719	0.904	0.933	0.632	Yes
Responsiveness	0.741	0.895	0.927	0.605	Yes
Assurance	0.705	0.896	0.925	0.611	Yes

Note. CR = composite reliability; AVE = average variance extracted.

According to the CFA results, all four indicators of SQ (tangibility, reliability, responsiveness, and assurance) showed strong factor loadings and were dependable measures of the underlying SQ. The alpha and composite reliability (CR) scores were high, which indicated strong internal consistency and reliability. The average variance extracted (AVE) scores were also above 0.5, which indicated strong convergent validity. Furthermore, the square root of AVE for each construct was greater than the correlation between that construct and other constructs in the model, demonstrating discriminant validity.

Based on CFA results, all three indicators (customer attitude, satisfaction, and customer loyalty) were reliable customer satisfaction measures. Alpha and CR scores were high, indicating strong internal consistency and reliability. In contrast, AVE scores exceeded 0.5 to signal strong convergent validity and discriminant validity, as evidenced by the square root of AVE values greater than correlation coefficients between each construct in the model.

The results demonstrated strong consistency and reliability, with AVE scores above 0.5 indicating strong convergent validity. In addition, analysis revealed discriminant validity as evidenced by the fact that the square root of AVE for each construct was higher than its correlation with other constructs in the model.

In sum, the results of CFA demonstrated that measures used in this research to assess SQ, customer satisfaction, and loyalty were both reliable and valid. High alpha/CR scores showed the measures were consistent and reliable while AVE scores above 0.5 suggested the measures may have been convergent. Furthermore, each construct measured an individual concept, thus demonstrating discriminant validity. This finding suggests these measures may be useful for future analyses of customer quality in Saudi Arabia (Table 2).

Table 2. Results of Mediation Analysis

Effect	Path coefficient	Standard error	<i>t</i> value	<i>p</i> value
Direct effect with mediator	0.45	0.06	7.5	<.001
SQ → CS → CL	0.25	0.08	3.13	<.05
Total effect	0.7	0.07	9.94	<.001
Proportion mediated	35.7%			

Note. Indirect effect * 100/total effect = 0.25* 100/0.70 = 35.7% (partial mediation).

Direct Effect with Mediator

A path coefficient (also referred to as the standardized coefficient or beta coefficient) of 0.45 represented the strength and direction of the relationship between IV and DV when including the mediator in the analysis. This indicated that for every 1-unit increase in IV, there was a 0.45-unit increase in DV, controlling for the mediator. A standard error estimate of 0.06 provided an idea of its uncertainty. *P* value refers to the probability of observing the observed *t* value (or more extreme value) under the null hypothesis that there was no relationship between IV and DV when including the mediator. A *p* value <.001 indicated strong evidence against this hypothesis, suggesting significant relationships between IV and DV may exist when including the mediator.

Indirect Effect

SQ - CS - CL: This pathway depicted an indirect route by which IV (SQ) influenced DV (CL) through the mediator CS. A path coefficient of 0.25 denoted the strength and direction of the relationship between SQ and CL via the mediator CS; a 1-unit increase in SQ resulted in a 0.25-unit increase in CL through its operation through mediators such as CS; its standard error was estimated at 0.08-unit increases in this path coefficient.

Total Effect

The total effect refers to the overall relationship between IV and DV regardless of mediation. A path coefficient of 0.70 represented this total effect of SQ on CL. Taking

into account all paths involved, every 1-unit increase in SQ led to a 0.70-unit increase in CL.

The mediation proportion measured how much of the effect of IV on DV could be explained by indirect mechanisms through mediators such as the CS variable. Here, the proportion mediated was 35.7%, indicating that approximately 35.76% of SQ's effects were mediated through this intermediary variable. Therefore, both hypotheses (H1 and H2) presented in the chapter were accepted.

4 Discussion of Findings

A multi-group investigation revealed that elderly consumers tended to be more loyal. In contrast, women were more attuned to specific SQ characteristics such as responsiveness and empathy than were other consumer groups. These findings imply that Saudi Arabian retailers must create segment-specific strategies to meet the needs and expectations of various demographic groups. Additionally, customers with higher incomes and educational levels had higher expectations for service providers and tended to place more value on SQ than did other groups, as was identified in many existing studies (Thaichon & Quach, 2015; Zhu et al., 2018). As a result, Saudi Arabian retailers should invest into training and development initiatives to raise the level of customer-service proficiency of their retail workforces.

The findings of this research provided insight into the role that SQ plays in influencing customer satisfaction and loyalty in the Saudi Arabian retail industry. Our results showed that delivering high-quality service was a critical factor in raising customer satisfaction and loyalty, which is consistent with other studies from other nations, including, UAE (Khraim, 2011), Malaysia (Perez-Moron et al., 2022; Irfan et al., 2016), Pakistan (Hadi et al., 2019), the United Kingdom (Nguyen et al., 2018) Saudi Arabia (Al-Mudaifer et al., 2019; Alqahtani & Alqahtani, 2018; Ali & Alhaddad, 2017; Mahfooz, 2014; Sanjuq, 2014), and Jordan (Alsmadi, 2019).

Our findings further imply that, with a significant direct influence and an extra indirect effect, customer satisfaction partially mediates the association between SQ and customer loyalty. These results suggest that Saudi Arabian retailers should prioritize high-quality service to boost consumer satisfaction and loyalty. To further increase customer loyalty, retailers should concentrate on putting these methods into practice. These results confirm earlier research that customer satisfaction bridges customer loyalty and service excellence (Huang et al., 2019; Orel & Kara, 2014).

4.1 Conclusions and Recommendations

According to our findings, the two most crucial aspects of SQ and customer satisfaction in Saudi Arabia were service reliability and responsiveness. Our research, moreover, suggests how Saudi Arabian businesses might better serve their customers. First and foremost, companies should work to increase customer satisfaction by boosting the dependability and responsiveness of their services. Second, it is essential to set up communication channels, training programs, and review mechanisms. Finally, businesses should invest resources into boosting SQ to better assist customers and, in turn, win

their loyalty. As a result of our research, we now better understand the variables in the Saudi Arabian market that affect SQ, customer satisfaction, and the quality of the interactions between businesses and their clients. Our results indicated that customer satisfaction and loyalty depended heavily on SQ. Thus, retailers should create segment-specific strategies to meet the needs and expectations of various demographic groups. Overall, Saudi Arabian retailers can strengthen their positions in the market and raise customer satisfaction and loyalty by concentrating on these areas.

4.2 Potential Implications

First, our study indicated that SQ affected customer satisfaction, so we argue that it is crucial for businesses to prioritize SQ improvements that boost customer satisfaction. Second, we concluded that the quality of customer service benefitted customer satisfaction and customer loyalty. This finding suggests that companies should prioritize first-rate customer service to boost their standing with their clientele.

4.3 Future Research Direction

This research was based on customer perspectives. Therefore, future studies could include the perspectives of service providers. Also, future studies should interview service providers to understand their current practices, challenges, and opportunities. Finally, interviews with customers could help to understand their needs and expectations.

4.4 Limitations

Despite this study's valuable findings, several limitations must be considered. For one, the sample size was small, and the information was only gathered from one Saudi Arabian city. The findings may also be limited in their applicability to other industries due to the research's focus on Saudi Arabian retail customers. Third, the participants provided all the information in the research, which could lead to bias or inaccurate results. We did not apply other sophisticated statistical techniques, which were beyond the study program's scope. Finally, this research did not investigate extraneous factors such as cultural or societal norms' influence on the constructs' correlations.

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Quality Management Practices and Their Impact on Exploitative and Explorative Innovations: An Exploratory Analysis

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Abstract. This study delves into the in-depth analysis of the relationship between quality management principles (QMPs) and organizational ambidexterity, specifically focusing on exploitative and explorative innovations. Through interviews conducted with key personnel in senior and middle-level management, the impact of various QMPs on these two forms of innovation was examined. The findings revealed several significant insights. First, customer focus and people engagement were identified as contributors to both forms of innovation, with a stronger influence on exploitative innovation. However, they can lead to the identification of new needs and subsequently drive explorative innovation when customer focus has an emphasis in customer behavior, not feedback, and people engagement when employees are empowered adequately to take risks in trying new things. Second, leadership and relationship management were found to play a critical role in both exploitative and explorative innovations. Lastly, process approach, improvement, and evidence-based decision making were found to primarily contribute to exploitative innovation rather than explorative innovation. These findings are significant for business leaders, particularly in the context of Saudi Vision 2030 and the objective of unlocking the potential of non-oil sectors. By understanding the specific impact of QMPs on organizational ambidexterity, leaders can contribute to the realization of strategic objectives and explore prospects by leveraging existing resources and identifying new avenues. Overall, this research enhances the understanding of the relationship between QMPs and organizational ambidexterity. It provides insights into the influence of each principle on both exploitative and explorative innovations, offering valuable knowledge for practitioners and contributing to the existing body of research in the field.

Keywords: quality management practices · exploitative innovation · explorative innovation · organizational ambidexterity

1 Background of the Study

Innovation is crucial for businesses, offering benefits such as problem solving, increased productivity, competitive advantage, and cost reduction. It encompasses the development and implementation of new ideas, including products, services, processes, models,

and methods. There are two main types of innovation in the context of organizational ambidexterity:

- **Incremental Innovation (Exploitation):** “Continuous improvement through incremental innovation of existing products and services is characterized as exploitation” (Thomas Claussa, 2021, p. 20).
- **Radical Innovation (Exploration):** Firms follow exploration strategies in order to spot new opportunities in the market, identify the needs of customers, or create new demand by anticipating potential desires. “Exploration is oriented towards disruptive innovation practices, products and technologies... and ultimately results in radical innovations” (Thomas Claussa, 2021; Mahmood et al., 2019).

On organizational ambidexterity, per Antonio Nieto-Rodriguez (2014a, b), the most accepted definition of ambidexterity is a balance between explorations and exploitations, organizations capable of exploiting their existing competencies while simultaneously exploring new opportunities. Neglecting innovation can lead to missed opportunities and declining profits, as seen in examples like Nokia and Kodak. With that being said, we know the importance of not only innovation but also dual innovation (ambidexterity); it is also very important to know the factors that lead to innovation. Several studies have discussed how to achieve organization innovation by applying quality management practices (e.g., Fernandez et al., 2022; Cheah et al., 2022; EI Manzani et al., 2023; Sung & Kim 2021; Arad et al., 2011; Abbas & Asghar, 2010). On the other hand, new studies have discussed this from a quality management perspective, such as a thesis written by Sofia Madentzoglou (2023a, b) she found a close relation between quality management and ambidexterity. However, the findings of thesis could be more useful if she considered specific quality management practices and linked them with exploitative and explorative innovations.

Therefore, this study explores the relation and impact of each quality management principle (QMP) (i.e., customer focus, leadership, engagement of people, process approach, improvement, evidence-based decision making, and relationship management) on organization ambidexterity via thematic analysis. This strategic approach allows organizations to enhance their competitiveness, drive economic diversification, and foster sustainable development across various sectors, including technology and energy. By leveraging QMPs to achieve organizational ambidexterity, Saudi organizations can contribute significantly to the ambitious national agenda outlined in Saudi Vision 2030 and discover prospects by exploiting and existing resources and exploring new resources mainly in the strategic objective (Thriving Economy) and specifically in the branch objective (Unlock Potential of Non-Oil Sectors).

This paper is organized as follows: literature review will discuss in next section, followed by analysis results and interpretations. The study concludes with findings, conceptual framework, conclusions, limitations and future research directions.

2 Literature Review

2.1 Organization Ambidexterity

Organizational ambidexterity theory refers to the ability of an organization to simultaneously pursue and integrate two seemingly conflicting strategies: exploratory innovation and exploitative innovation.

- 1- “Exploratory innovation involves developing new products, services, or processes that are novel and uncertain”.
- 2- “Exploitative innovation involves optimizing existing products, services, or processes to maximize efficiency and profitability”.

Organizational ambidexterity is important because it allows organizations to adapt to changing market conditions and remain competitive over the long term. Balancing exploratory innovation and exploitative efficiency can be difficult as the two strategies often require different types of resources, processes, cultures, and practices, such as quality management practices, which can influence both types of innovations. According to Antonio Nieto-Rodríguez (2014a, b), the most accepted definition of ambidexterity is a balance between explorations and exploitation—organizations capable of exploiting their existing competencies while simultaneously exploring new opportunities.

Stefan F. Dieffenbacher (2023a,b) said that the goal of an ambidextrous organization is to balance the need for both exploration and exploitation in its organizational strategy and organizational development. Exploration involves developing new products, services, or processes, while exploitation focuses on optimizing existing ones. He also mentioned some successful companies who apply this. For instance, he said that Google has a dedicated unit (Google X) that focuses on exploring new growth opportunities. This unit is responsible for developing and testing new technologies, such as self-driving cars and internet balloons. At the same time, the existing business units focus on exploiting existing products and processes, such as its search engine and advertising products. This balance between exploration and exploitation has allowed Google to maintain its position as a leading technology company and remain at the forefront of innovation. He gives another example: Amazon has a dedicated unit (Amazon Web Services) that focuses on exploring new growth opportunities. This unit is responsible for developing and testing new technologies and business models that can help Amazon grow. At the same time, the existing business units focus on exploiting existing products and processes, such as its e-commerce platform and Prime membership program. This balance between exploration and exploitation has allowed Amazon to remain at the forefront of innovation and maintain its position as a leading retail company.

2.2 Quality Management

Quality management is the exercise of overseeing the activities, tasks, and processes (inputs) that are used to create a product or service (outputs) so they may be held to a high and consistent standard. There are four main components of quality management: quality planning, quality assurance, quality control, and quality improvement. The process of implementing all four components in an organization is referred to as total quality management (TQM). Quality management (and TQM) focuses on not only the quality of the outputs (products and services) but also the inputs—the tasks and processes by which the outputs were created. Ideally, not only does the quality of a product and/or service increase, but also, the process by which the product and/or service is created improves, thus achieving more consistent, higher-quality products and services (Cheah et al., 2022).

2.3 Quality Management Principle

Per ISO (2022), one of the definitions of a principle is that it is a basic belief, theory, or rule that has a major influence on the way in which something is done. QMPs are a set of fundamental beliefs, norms, rules, and values that are accepted as true and can be used as a basis for quality management. QMPs can be used as a foundation to guide an organization's performance improvement. They were developed and updated by international experts of ISO/TC 176, which is responsible for developing and maintaining ISO's quality management standards see Table 1 for detail.

Table 1. Seven quality management principles

QMP 1—Customer focus	QMP 5—Improvement
QMP 2—Leadership	QMP 6—Evidence-based decision making
QMP 3—Engagement of people	QMP 7—Relationship management
QMP 4—Process approach	-

2.4 Quality Management Principles and Organizational Ambidexterity

Customer Focus and Organizational Ambidexterity

Customer focus impacts both exploitative and explorative innovation. In exploitative innovation, it helps optimize existing products based on customer needs, preferences, and feedback. In explorative innovation, customer focus is less relevant as the focus is on creating new offerings, but it can still provide insights into emerging or unmet customer needs for developing innovative solutions. Per ISO 56000:2020, the focus of quality management is to meet customer requirements and to strive to exceed customer expectations. If we know that it is not necessary to be an external customer, this could be an internal customer as well, such as your manager or your team. Moreover, it can be extended to a stakeholder. Hence, these will provide an opportunity to focus on

optimizing the internal process, products, etc. (exploitation) as well as hunting new opportunities or innovating ideas (exploration). Per Sofia Madentzoglou (2023a, b), customer feedback generates knowledge that may be used internally to enhance design thinking for process optimization and innovation activity and therefore exploration, with the aim to tailor output to the demands of end users. Quality management procedures are also used to satisfy other stakeholders apart from customers with the goal to explore new markets.

Leadership and Organizational Ambidexterity

Leadership can play a crucial role in promoting ambidexterity within an organization. According to Alexandru Ioan Cuza (2021), several studies have shown that leadership positively influences organizational innovation (Jung et al., 2003). However, the contextual conditions under which this effect occurs or is highlighted has not been researched thoroughly. In my opinion, leaders play a crucial role in achieving a balance between explorative and exploitative innovation strategies. They can set specific goals and priorities, foster a supportive culture, build diverse teams, and provide necessary resources and support for innovation efforts. However, it is important to acknowledge that leadership is not the sole determinant of ambidexterity as other factors can also influence an organization's ability to effectively balance these strategies.

Engagement of People and Organizational Ambidexterity

The engagement of people within an organization can have a significant impact on ambidexterity, which refers to an organization's ability to simultaneously pursue both explorative and exploitative innovation strategies. It can impact ambidexterity in several ways; for instance, encouraging collaboration can facilitate the sharing of knowledge and ideas, which can lead to successful innovation outcomes. Additionally, collaboration can help to break down silos and promote a culture that supports both explorative and exploitative innovation. Also, engaged employees are more likely to feel empowered to take risks and experiment with new ideas. When employees are engaged, they are expected to bring their creativity and innovation to work, which can lead to successful innovation outcomes. In my opinion, the engagement of people is promoting ambidexterity within an organization. Engaged employees are more likely to bring their creativity and innovation to work, collaborate effectively, and be committed to the organization's goals and mission.

Process Approach and Organizational Ambidexterity

The process approach can support exploitative innovation efforts by helping organizations identify and address inefficiencies in existing processes; by establishing processes for continuous improvement, organizations can identify opportunities for incremental improvements to existing products, services, or processes and optimize their performance over time. Additionally, this can support explorative innovation efforts; by providing a structured framework for ideation, experimentation, and implementation through establishing processes for innovation, organizations can ensure that new ideas are systematically evaluated and tested before being implemented. This can help to manage risk and uncertainty associated with explorative innovation efforts. Per ISO 56000:2020, consistent and predictable results are achieved more effectively and efficiently when activities are understood and managed as interrelated processes that function as a coherent system.

The quality management system consists of interrelated processes. Understanding how results are produced by this system enables an organization to optimize the system and its performance.

Improvement and Organizational Ambidexterity

Improvement efforts can support exploitative innovation by identifying areas for incremental improvements and streamlining existing processes; by continually improving existing products, services, or processes, organizations can maintain their competitive edge and enhance customer satisfaction. Continuous improvement promotes the endless striving of organizations to learn and optimize their processes and outputs targeting the long-term prosperity of the organization and its competitive advantage (Ishikawa, 1985; Deming, 1993; Juran, 1969). The emphasis on continuous improvement creates, above all, discipline and supports exploitation activities. Such practices strongly reinforce exploitation and, if they are not complemented by development in other dimensions, may represent a serious obstacle to ambidexterity (Maria D. Moreno-Luzon, 2011).

Evidence-Based Decision Making and Organizational Ambidexterity

Evidence-based decision making can help organizations make better decisions by relying on evidence rather than intuition or guesswork. This can be especially important when it comes to making decisions about whether to explore new opportunities or exploit existing ones. By using data to inform these decisions, organizations can better understand the potential risks and rewards of each approach and make more informed choices. In addition, this can help organizations optimize their resources and capabilities; by using data to inform resource allocation decisions, organizations can ensure that they are making the most of their existing resources and capabilities. Facts, evidence, and data analysis lead to greater objectivity and confidence in decision making (ISO 56000:2020).

Relationship Management and Organizational Ambidexterity

Relationship management can play a critical role in promoting both exploitative and explorative innovation efforts; by building strong relationships with customers, organizations can gain insights into customer needs and preferences that can inform both exploitative and explorative innovation efforts, and by building strong relationships with suppliers and partners, organizations can access new technologies, resources, and knowledge that can support both exploitative and explorative innovation efforts (ISO 56000:2020). Similarly, Asif and De Vries (2015) explain that an emerging role of supplier management requires mutual development and involvement in product or service design, which may favor exploration. By cooperating with suppliers, a company may exchange with them insights aimed at innovation in products or services (Escrig-Tena et al., 2018). Suppliers may offer key information about customer demand changes (Kim et al., 2012). Thus, for example, if the company collects internal and external data through cooperation with suppliers and shares this information with employees and other organizational members, it may be possible to promote explorative innovation (Eva M. Pertusa-Ortega, 2021).

3 Methodology

This study used a qualitative research approach to investigate the connection between QMPs and organization ambidexterity in a manufacturing company. The goal was to gain in-depth insights into the experiences, perspectives, and practices of key individuals within the organization. Semi-structured interviews were conducted with executives and middle-level managers, selected through purposive sampling based on their critical positions and valuable insights related to the research topic. The sample consisted of eight individuals:

- Interviewee # 1: (VP, Manufacturing)
- Interviewee # 2: (Manager, Manufacturing Excellence)
- Interviewee # 3: (Advisor, Succession Planning and Development)
- Interviewee # 4: (Manager, Strategy & AMO)
- Interviewee # 5: (GM, Business Development)
- Interviewee # 6: (GM, Operation)
- Interviewee # 7: (Manager, Assets Management Strategies)
- Interviewee # 8: (Manager, QA Laboratory)

Data collection involved face-to-face and virtual interviews, with audio recordings obtained from all the participants except the first two. A set of seven predetermined questions guided the interviews, exploring the participants' perspectives on the impact of QMPs on exploitative and explorative innovations. The Otter platform was used to transcribe and summarize the interviews, capturing key points. Thematic analysis was employed, the coding data based on recurring themes and patterns. The coded data were organized into meaningful themes reflecting the participants' views on QMPs and organization ambidexterity. Ethical considerations were addressed through informed consent, ensuring confidentiality and anonymity. The participants' names were not included in the study without explicit consent.

4 Analysis and Interpretation

4.1 Does Customer Focus Contribute to Exploitative and Explorative Innovations?

Customer focus is important for both exploitative and explorative innovations. However, it has a greater impact on the former rather than the latter. Nevertheless, focusing on understanding the customers' behavior and needs, not the customers' feedback, can lead to explorative innovation. Overall, customer focus plays a vital role in driving innovation, with exploitative innovations benefiting more from customer feedback, while explorative innovations require a deep understanding of customer needs and proactive thinking.

4.2 Does Leadership Contribute to Exploitative and Explorative Innovations?

Leadership plays a crucial role in both exploitative and explorative innovations. However, leaders often focus more on exploitative innovation because explorative innovation requires brave leaders with an open mindset, a tolerance for mistakes, and a high risk appetite and who try new things without always needing justification, while traditional efficiency-focused leaders may not contribute as much.

4.3 Does Engagement of People Contribute to Exploitative and Explorative Innovations?

The impact of employee engagement on innovation is multifaceted, and it contributes to both exploitative and explorative innovations but more on the former. Engaging employees at all levels and creating a culture that values their input and ideas empower them and allow them to believe in it; these points will lead to continuous exploitative and explorative innovations. Also, the use of systems or platforms to facilitate the sharing of suggestions and ideas is mentioned as a practical approach to harnessing employee contributions.

4.4 Does the Process Approach Contribute to Exploitative and Explorative Innovations?

The process approach contributes to both exploitative and explorative innovations, but it has a greater impact on the former. For example, Lean Six Sigma promotes efficiency, standardization, and incremental improvements within existing processes, which lead to exploitative innovations. However, clear processes and a decreased dependency on leaders' involvement in day-to-day operations allow leaders to allocate time for fostering both types of innovations.

4.5 Does Improvement Contribute to Exploitative and Explorative Innovations?

Improvement contributes to both exploitative and explorative innovations, but it has a greater impact on the former. It is mainly associated with exploitation given its focus on incremental changes within existing processes and systems. However, it also can help in exploration if considering continuous experimentation, learning, and trying new ideas are seen as factors that can lead to exploration. Six Sigma, the DMAIC program, and the 4 DX software are mentioned as examples of existing improvement programs that eliminate waste and are primarily associated with exploitative innovation.

4.6 Does Evidence-Based Decision Making Contribute to Exploitative and Explorative Innovations?

Evidence-based decision making is recognized as contributing to both exploitative and explorative innovations but has a stronger influence on exploitation than exploration. Also, it helps to achieve a balance between ambitious goals and practical constraints in both types of innovation. The responses lack specific examples or mechanisms illustrating how evidence-based decision making contributes to exploitative or explorative innovations.

4.7 Does Relationship Management Contribute to Exploitative and Explorative Innovations?

Relationship management contributes to both exploitative and explorative innovations. Trust-based relationships with suppliers provide valuable support and insights. Relationship management is associated with the open innovation paradigm and understanding stakeholder needs. It enables the identification and resolution of customer problems. However, the impact on innovation depends on the nature of relationships and openness to new ideas. A narrow focus on financial gains may hinder explorative innovation. Overall, relationship management plays a powerful role in driving innovation, but considerations such as collaboration, stakeholder understanding, and avoiding narrow perspectives are vital for successful outcomes.

5 Discussion

The study's findings highlight the importance of certain factors in driving both exploitative and explorative innovations within organizations. Customer focus and people engagement emerged as key contributors to both forms of innovation, with a stronger influence on exploitation. This aligns with previous research emphasizing the importance of understanding customer needs and preferences in driving product and process improvements as claimed by Sofia Madentzoglou (2023a, b). Additionally, the findings reveal that when customer focus goes beyond mere feedback and emphasizes understanding customer behavior, it can lead to the identification of new needs and subsequently drive exploration. Similarly, when employees are adequately empowered to take risks in trying new things, people engagement becomes a catalyst for explorative innovation within organizations. These findings underscore the significance of incorporating customer-centric approaches and empowering employees to foster innovation. Leadership and relationship management were identified as critical factors influencing both exploitative and explorative innovations.

Effective leadership practices that inspire and motivate employees play a vital role in creating an environment that fosters innovation. Furthermore, strong relationships both within the organization and externally facilitate knowledge sharing, collaboration, and partnerships, which are essential for driving both forms of innovation. These findings align with those of previous studies (Mihaela, 2021; Minhaj et al., 2019; Sofia Madentzoglou, 2023a, b; Abbas & Asghar, 2010) as they claimed that an ambidextrous leadership style helps to inject their ambidextrous values into the organizational culture. Also, good relationship management has a positive impact on both types of innovation; this aligns with the findings of Maria D. Moreno-Luzon (2011) and Sofia Madentzoglou (2023a, b). Lastly, the findings indicate that certain QMPs primarily contribute to exploitative innovation rather than explorative innovation. The process approach, improvement, and evidence-based decision making were found to be key drivers of exploitative innovation.

Per the above discussion, the following research model was developed, see Fig. 1:

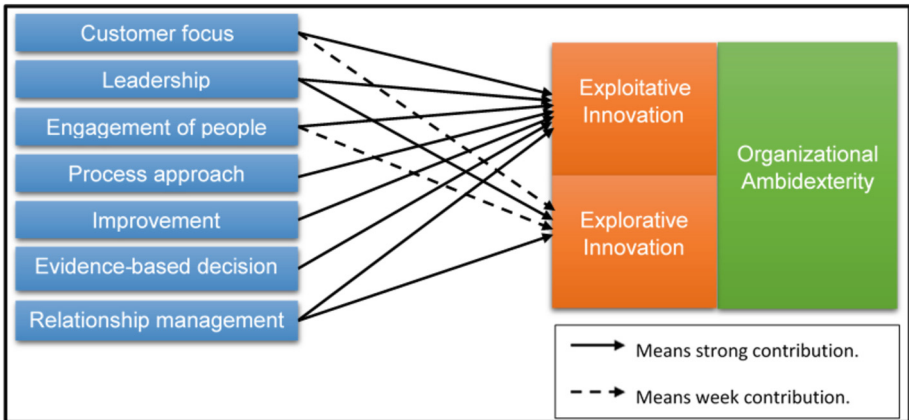


Fig. 1. Quality management practices and exploitative and explorative innovations

6 Conclusion and Implications

In conclusion, this study highlights the importance of QMPs in driving organizational ambidexterity and promoting both exploitative and explorative innovations. The findings emphasize the significance of customer focus and people engagement in fostering innovation, with a stronger influence on exploitative innovation. Leadership and relationship management were found to play critical roles in supporting both forms of innovation. Additionally, process approach, improvement, and evidence-based decision making primarily contribute to exploitative innovation. These insights provide practical guidance for organizations seeking to enhance innovation capabilities and adapt to changing market dynamics. By implementing strategies that prioritize these principles, organizations can create an environment conducive to innovation and gain a competitive edge (Hadi et al., 2023). Future research can explore different industries and factors influencing organizational ambidexterity to further enrich our understanding of this dynamic relationship.

Organizations can enhance organizational ambidexterity and promote both exploitative and explorative innovations by focusing on the following key factors:

1. Focus on customer behavior, not on feedback, and empower the people by engaging them to drive explorative innovation, not only exploitative innovation.
2. Emphasize leadership and relationship management for fostering both forms of innovation.
3. Enhance the process approach, improvement, and evidence-based decision making for exploitative innovation.

By considering these implications, organizations can create a conducive environment for innovation and improve their ability to adapt to changing market dynamics while driving continuous improvement.

6.1 Limitation and Future Directions

It is important to acknowledge the limitations of this study. The research focused on the manufacturing industry, and the findings may not be generalizable to other contexts such as services firms or other sectors. Additionally, the reliance on interviews as the primary data collection method introduces the potential for biases and subjectivity. Future research should consider broader industry samples and employ a mix of qualitative and quantitative methods to enhance the robustness of the findings.

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Efficiency Comparison Between Non-profit and Commercial Microfinance: Empirical Evidence from Akhuwat Microfinance and Grameen Bank Using Data Envelopment Analysis

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Abstract. The operational effectiveness of a microfinance institution (MFI) significantly impacts its sustainability. The aim of this research is to undertake an assessment of comparisons of the operational effectiveness of a nonprofit and commercial MFI. The aim is to extract valuable insights from the best practices employed by these institutions. To accomplish this goal, two prominent MFIs have been chosen for analysis. The first is Grameen Bank (Bangladesh), which serves as a representative of commercial micro-finance. The second is Akhuwat Microfinance in Pakistan, which represents nonprofit microfinance. This study employs a quantitative research methodology, specifically the Data Envelopment Analysis (DEA) technique. The DEA is a widely utilized non-parametric method employed in this research to assess the efficiency of both MFIs for the time frame between 2013 and 2019. Malmquist index assesses efficiency within the context of the DEA technique. The Malmquist efficiency measures can be broken down into two distinct indexes: efficiency change and technical change. The concept of efficiency change can be further subdivided into two sections: pure efficiency and scale efficiency. The two establishments' annual reports provided the input-output data needed for the efficiency assessment. The results suggest that Akhuwat Microfinance demonstrated inefficiency for the duration of the study, with a waste of 38 percent of its inputs. Except for the year 2018, during which Akhuwat Microfinance achieved 100% efficiency. In contrast, the inefficiency rate of Grameen Bank was significantly lower, standing at a mere 3 percent. This essay is on the experiences of Grameen Bank and Akhuwat Microfinance, with a particular focus on the problems encountered in achieving operational efficiency within communities that lack the requisite skills and training to adapt to these emerging MFIs properly.

Keywords: Data envelopment analysis · Efficiency · Microfinance institutions · Nonprofit microfinance · Grameen Bank Bangladesh · Akhuwat Microfinance

1 Introduction

Microfinance has gained widespread recognition as a prominent instrument for alleviating poverty and promoting women's empowerment. Nations that possess a robust microfinance infrastructure have experienced notable reductions in poverty rates and seen improvements in the socioeconomic status of women. J. Islam et al. (2012) and Shukran and Rahman (2011), noted that while the terms microfinance and microcredit are often utilized interchangeably, it is critical to recognize a clear differentiation between the two. Micro-finance describes the providing of a diverse range of financial products and services to those with limited financial resources and inadequate access to such offerings. The services provided include savings, loans, insurance, leasing, money transfers, and various other services. Microfinance has been widely recognized as a highly effective approach to empowering marginalized individuals and enhancing their capacity to generate income (Hassan & Sanchez, 2009; Shukran & Rahman, 2011). Typically, the loans sizes range from 50 to 150 USD. Furthermore, microcredit can be interpreted as a financial innovation that has emerged from microfinance organizations such as Grameen Bank (GB) in Bangladesh, which renders conventional microfinance services, and Akhuwat Microfinance in Pakistan, which supplies Islamic microfinance facilities. The establishment of GB in the 1970s marks a significant milestone in the development of microfinance. GB operates on the principles of trust and collateral-free lending. It adopts a group lending approach to provide microcredits to impoverished rural communities with the aims of alleviating poverty and fostering socioeconomic advancement (Hassan & Sanchez, 2009). Participants can obtain a loan of moderate value, subject to a fixed interest rate. They ought to meet the requirement of forming a group of five members. Every group member has the right to individually acquire a loan; nevertheless, as a collective, they share common responsibility for all five credits. The demographic group that constitutes the largest proportion of borrowers in GB is women, considered the most vulnerable socioeconomic category within the rural poor population. Hassan and Renteria-Guerrero (1997) declare that providing loans to women in the UK has significantly enhanced the country's loan recovery rate.

In contrast to the conventional microfinance model, Akhuwat Microfinance was founded in 2001 with an initial contribution of Rs.10,000 from a female donor. The organization primarily relies on donations for its operations and offers a principal product known as "Qard-al-Hasan," a Shariah compliant interest-free loan with extended repayment terms. The concept of Akhuwat, derived from the term "brotherhood," is distinctive due to its emphasis on communal engagement, with most branches situated within mosques and churches. Its primary objective is to uphold noble social values by extending assistance to impoverished individuals without seeking profit through interest payments. Due to its non-profit nature, Akhuwat Microfinance heavily depends on contributions from donors, customers, and subsidies (Beall, 2016). A notable distinction between Grameen Bank and Akhuwat Foundation lies in their approach to loan interest. While GB imposes interest charges on loans, Akhuwat Foundation does not levy any interest. Instead, it deducts a 5% membership fee to partially cover operational costs (Shah et al., 2014).

The fundamental aim of both GB and Akhuwat MF is almost identical, as they seek to support marginalized individuals, with a specific focus on impoverished women. The

Akhuwat Foundation will be a benchmark in this research report due to its provision of interest-free loans and remarkable 100% loan recovery rate. The study will also endeavour to identify the obstacles and possibilities through a comparative efficiency examination of both MFIs from 2013 to 2019.

1.1 Problem Statement

According to Shah et al. (2014), most traditional MFIs offer microloans at an interest rate of over 20%; the high rates are essential for operations costs and risk mitigation. The elevated interest rates place significant financial strain on borrowers, exerting a detrimental influence on the overall performance and prosperity of the organization. Charging interest, referred to as “Riba” in Arabic, is prohibited according to Islamic law. In Islam, it is noteworthy that the principle of profit and loss sharing is actively promoted due to its potential to foster the growth and development of useful and productive endeavours. The distribution of earnings and losses is mutually shared between the financier and the borrower following the profit and loss sharing agreement. The notable disparity between the two structures, namely GB in Bangladesh as a commercial MFI and Akhuwat MFI in Pakistan as an Islamic nonprofit microfinance institution, raises inquiries on the efficiency considerations associated with their implementations. Hence, this research aims to examine the level of efficiency exhibited by the two MFIs by employing the DEA, which will be accomplished by evaluating the financial statements of both MFIs over the period spanning from 2013 to 2019.

1.2 Structure of the Paper

This paper studies Grameen Bank and Akhuwat Microfinance to determine their operational efficiency. It addresses the problem statement; next, it contextualizes the research with a thorough literature analysis and then explains the methodology, followed by data selection and collection. The study then presents the seven-year Data Envelopment Analysis (DEA) results for efficiency. The discussion section discusses these findings and their implications for the MIs. It acknowledges the study’s shortcomings, mainly on efficiency indicators, and suggests microfinance research areas for future investigation. The paper presents a paradigm for analyzing and assessing microfinance institution efficiency, findings, practical recommendations, and future research while acknowledging its limitations.

2 Literature Review

2.1 The Concept of Efficiency

Productivity and efficiency are fundamental concepts for performance measurement. It is important to acknowledge, though, that certain researchers claim that there is occasional confusion between these two concepts. Productivity can be defined as the quantitative relationship between outputs and inputs, whereas efficiency pertains to the comparative measure of productivity over a certain period. The evaluation of efficiency in a corporation concerns the organization’s ability to effectively convert its inputs into outputs

(Sufian, 2013). Efficiency in the context of microfinance pertains to the ability of the MFIs to utilize resources to generate desired outcomes effectively; this can be achieved by either expanding outputs while keeping inputs constant or minimalizing inputs while maintaining desired outputs (Balkenhol, 2007).

Numerous studies have comprehensively assessed MFIs' efficiency by examining them through various approaches, for instance, geographical locations, settings, sample periods, and methodologies. Paradi et al. (2011) arrange these techniques as the ratio analysis approach and the frontier efficiency approach in terms of their approaches and strategies. There are two main classifications for frontier efficiency processes: econometric techniques, also known as parametric techniques, and linear programming techniques, also known as non-parametric techniques. In a more specific context, most studies on MFIs efficiency have employed two distinct methodologies: a parametric approach, Stochastic Frontier Analysis (SFA), and a non-parametric approach, Data Envelopment Analysis (DEA). The DEA utilizes the linear programming method, while the SFA employs the regression process. The regression process in SFA requires making assumptions about the statistical allocation of random error and inefficiency variables. SFA necessitates making assumptions on the exact functional relationship between production input and output; it may assume an inappropriate functional nature due to these underlying assumptions. To mitigate this issue, the method of DEA has been selected for this study due to its ability to operate without relying on underlying assumptions.

Moreover, the process of SFA necessitates a substantial dataset to establish dependable assumptions. On the contrary, the DEA has the capability to evaluate efficiency by utilizing a restricted set of sample data. In contrast to SFA, the DEA methodology permits the inclusion of multiple inputs and outputs without requiring price information. Consequently, employing a parametric methodology as SFA may be inappropriate due to its potential to introduce complexities in assessing efficiency levels (Siddiqui, 2012). Therefore, this research employs a non-parametric technique, specifically DEA, to gauge the efficiency of GB and Akhuwat MF.

2.2 Application of DEA in Microfinance

The DEA is commonly engaged to assess the efficiency of MFIs. The integration of many variables is noted in previous studies, contributing to the assessment of efficiency levels in MFIs. This section will primarily present the literary rationale supporting the use of the Data Envelopment Analysis Program (DEAP) for assessing efficiency.

Gutiérrez-Nieto et al. (2007) employed DEA to evaluate the MFIs' efficiency in their study. They proposed a methodology that enables the determination of value outcomes across different segments and conditions. Haq et al. (2010) observed that non-governmental financial institutions have better efficiency under the production technique, whereas bank-microfinance institutions exhibit high levels of competence in the intermediation approach. In a study by Kipesha (2012), several production processes were examined across 35 different MFIs. The findings revealed that banks and non-bank financial institutions showed greater efficiency than NGOs and cooperatives. In contrast, the study by Widiarto and Emrouznejad (2015) examines the efficiency of 39 MFIs on a global scale; their findings indicate that NGOs exhibit greater efficiency in their production strategies.

Furthermore, the research by K. M. Islam et al. (2011) examines the productivity of micro-finance lenders in Bangladesh's farmland context. The study's findings indicate that factors such as land segmentation, household size, household incomes, and other sources of revenue are significant predictors of agricultural production. Hence, the DEA approach possesses the capability to assess the efficiency of governance, financial planning, and competency across diverse geographical regions, thereby enabling the evaluator to discern the influence of distinct qualities on these elements. Identifying these qualities will aid both new and established MFIs in enhancing their efficiency (Masood & Ahmad, 2010).

Moreover, an MFI has the potential to improve its governance efficiency by implementing DEAP, which aligns with various elements recognized by the United Nations Development Programme (UNDP). These factors include legitimacy, voice, direction, performance, accountability, and fairness. Managers and policymakers of microfinance institutions have the opportunity to develop broader comprehension of governance factors, thus, enhancing the operational efficiency of these institutions. Similarly, the suggested design for the Sudanese Zakat Chamber failed to consider the evaluation mechanism for an alternative system of government. However, the study primarily emphasized planning, devising, and monitoring, as Elmaghrabi et al. (2020) stated.

The research undertaken by Elmaghrabi et al. (2020) brings attention to several challenges contributing to inefficiency within modern Zakat institutions, including inadequate assembly and distribution practices, lack of coordination, and managerial negligence.

Various microfinance companies have been evaluated by considering input factors such as net worth, operational expenses, and staff size. On the output side, financial revenue and help provided to the impoverished have been chosen as indicators, focusing specifically on certain Middle Eastern countries. This study examines the notable decline in the average capacity of many countries within the specified regions from 2006 to 2009 (Zaied & Maktouf, 2019).

Ultimately, it is common practice to employ parametric and non-parametric techniques to measure the MFIs' efficiency in achieving their growth objectives using various variables. The efficiency assessment in MFIs is commonly conducted by evaluating their financial and social objectives, considering geographical location, national context, and racial dynamics.

In a study conducted by Leon (2011), an analysis was carried out on Peruvian municipal banks. The findings revealed that the sample group's efficiency was influenced by factors such as governance, corporate culture, institutions, and resource productivity. The significance of age and location in Vietnam's MFIs is emphasized in the perspective of scale and technical efficiency, as indicated by Widiarto and Emrouznejad (2015).

However, comparing the two institutions using the DEAP relies on multiple variables, indicating a comprehensive understanding of their respective performances. The utilization and efficiency of Zakat monies in Algeria are also assessed using the DEAP and the input and output data of the Malmquist Productivity Index obtained from the Direction Régionale des Affaires Economiques (DRAE) for the period spanning from 2003 to 2013. Djaghballou et al. (2018) demonstrate the methodology for analyzing several factors.

3 Methodology

3.1 Data Sample Selection

This research utilizes skewed panel data to examine the data sample, consisting of two prominent microfinance establishments from 2013 to 2019. The companies under scrutiny are GB and Akhuwat MF. These organizations were selected based on their ability to provide representative data for evaluating their efficiency. The financial data was collected from the financial records (balance sheets and financial statements) of each institution, as well as from their official websites.

At length, the writer encountered a limitation in accessing the number of active borrowers for Akhuwat after 2017, as this information was inaccessible through their published records. Consequently, the authors contacted the institution to obtain the data for the subsequent years, from 2017 to 2019.

3.2 Data Collection and Analysis Methods

According to Farrell (1957) and Kipesha (2013), the efficiency of MFIs is determined by their ability to utilize resources, such as assets, subsidies, and staff, in an effective manner to generate output. This output is evaluated in terms of the loan portfolio and the extent to which poverty is addressed.

In their seminal work, Faere et al. (1989) were the first to employ the Malmquist index, utilizing the geometric mean method. According to Berg et al. (1991), the Malmquist productivity index was disassembled into technical and efficiency changes.

The production method is widely utilized to assess the technical efficiency of MFIs. This approach is favoured because MFIs are recognized as entities that utilize assets, money, and human resources as inputs in the production process of providing deposit and credit services (Bassem, 2008; Haq et al., 2010).

This research employs the production approach, utilizing gross loan portfolio and active borrowers as output variables, while total assets and operating expenses as input variables. The DEA is designed to compute the efficiency score and frontier and determine the optimal weights that maximize the efficiency of Decision-Making Units (DMU). The Charnes–Cooper–Rhodes (CCR) model, originally proposed by Charnes et al. (1978), has given rise to several adaptations, with the Balanced Crystallographic Structure (BCC) model by Banker et al. (1984) being the most prominent among them. The CCR and BCC models can be classified into two distinct types: input- and output-oriented. The concept of input orientation aims to reduce the consumption of inputs to achieve a specific output level.

In contrast, output orientation aims to maximize the product produced while maintaining a set level of inputs. The CCR model employs the concept of Constant Returns to Scale (CRS), wherein a single input unit is associated with a consistent output value. On the other hand, the BCC model assumes Variable Returns to Scale (VRS), allowing for fluctuations in output relative to changes in input quantities.

To tackle the concerns raised in this study, we employed the input-oriented approach and the dual-problem model. The dual model of CCR can be represented as follows:

$$\begin{aligned}
 & \text{Min } \theta - \varepsilon \left[\sum_{i=1}^n S_i^- + \sum_{k=1}^n S_j^+ \right] \\
 & \text{s.t. } \sum_{i=1}^s \lambda_r X_i^r - \theta X_i^k + S_i^- = 0 \quad i = 1, \dots, m \\
 & \quad \sum_{i=1}^s \lambda_r Y_j^r - S_j^+ = Y_j^r \quad j = 1, \dots, n \\
 & \quad \lambda_r \geq 0 \quad r = 1, \dots, s \\
 & \quad S_i^- \geq 0 \quad i = 1, \dots, m \\
 & \quad S_j^+ \geq 0 \quad j = 1, \dots, n
 \end{aligned} \tag{1}$$

where;

θ the DMUs efficiency?

The slack variable S_i^- represents the input surplus value.

The surplus variable, S_j^+ , indicates the value of the production deficit.

ε is non-Archimedean number that denotes a tiny constant.

When evaluating DMU r efficiency, λ_r stands for the percentage of referenced DMU k .

The CCR dual model is known as the BCC model when the constraint below is adjoined.

$$\sum_{r=1}^s \lambda_r = 1 \tag{2}$$

Equation (2) facilitates the liberation of CRS and transforms the BCC model into VRS. The CCR model assesses the overall efficiency (OE) of a DMU, while the BCC model can evaluate both the pure technological efficiency (PTE) and the scale efficiency (SE) of a DMU. Equation (3) illustrates the correlation between OE, PTE, and SE.

$$\text{PTE} \times \text{SE} = \text{OE}. \tag{3}$$

3.3 Specification of Inputs and Outputs

Several empirical papers have used asset, personnel, and operational expenses as input variables to construct loan portfolios. Meanwhile, financial income and the number of active borrowers have been utilized as output variables to assess production efficiency (Ahmad, 2011; Bassem, 2008; Kipasha, 2013).

Previous studies have employed total assets and operational costs as variables for input calculation. In this study, an input-oriented approach was employed in lieu of an output-oriented one. Success was assessed by measuring the number of active borrowers and the overall loan portfolio. Table 1 presents the descriptive data pertaining to the outputs and inputs of the investigation.

In the realm of evaluating the efficiency of MFIs, it is commonly observed that two distinct methodologies prevail, which may be identified in this context, namely the production approach and the intermediation approach. In this study, our analysis will be limited to examining MFIs' efficiency from the production standpoint. In essence, our analysis would involve the examination of the efficiency of the MFIs by choosing total assets and operational expenses as input variables and gross loan portfolio and number of active borrowers as output variables.

Tahir and Tahir (2013) employed total assets and operational expenses as input factors, while gross loan portfolio and the number of active borrowers were employed as outcome variables. The proponent provided a rationale for his proposition, asserting that the two input variables serve as indicators of the resources necessary for generating the output variables of the loan portfolio and the count of borrowers actively engaged in the process. Simultaneously, the output variables will encompass the dual objectives of MFIs, namely the provision of financial services and the attainment of outreach.

Jaiyeoba et al. (2018) assessed the technical and development potential of MFIs in Bangladesh and Indonesia. Input parameters encompassed assets and operational expenditures, whereas output variables comprised the total loan portfolio and the number of active borrowers.

Likewise, Shah et al. (2014) conducted a proportional analysis of Pakistan's commercial and nonprofit MFIs. The authors employed the DEA as a method to evaluate the efficiency of the selected institutions; they employed a production-oriented methodology, utilizing total assets, personal expenses, and cost per borrower (operating expenses) as input variables. They also utilized the gross loan portfolio and the number of active borrowers as output variables. Their research assessed a total of nine conventional MFIs and three Islamic MFIs throughout the period from 2008 to 2011. The findings indicate that two-thirds of Islamic MFIs and around one-fifth of conventional MFIs were identified as efficient borders.

4 Discussion and Findings

4.1 Data Variables

All calculations for the efficiency scores were solved by the DEAP. A different frontier for each year was used to assess the efficiency of the MFIs under study. Tables 1 and 2 show relative data used as input and output variables for each institution.

4.2 Results of DEA

Efficiency scores

The descriptive data of the efficiency scores for the years from 2013 to 2019 are shown in Table 3.

The findings suggest that in 2013, Grameen Bank exhibited the highest level of technical efficiency with a score of 100%. On the other hand, Akhuwat achieved a score of 65.9%, indicating that they are relatively less efficient. Despite attaining a perfect score of 100% in terms of pure technical efficiency, Akhuwat still experiences a wastage of 34.1% of its inputs, highlighting the need for improvement in its operations.

Table 1. Inputs and Outputs Data for Grameen Bank from 2013 to 2019

Grameen Bank				
In Bangladeshi Taka				
	OUTPUT		INPUT	
	Gross loan portfolio	Number of active borrowers	Total assets	Operating expenses
2013	₹84,384,910,000.00	6,738,588	₹178,936,575,972.00	₹8,134,767,617.00
2014	₹87,495,340,000.00	6,747,139	₹200,961,451,332.00	₹8,808,959,021.00
2015	₹96,422,280,000.00	6,856,448	₹220,885,443,353.00	₹10,111,496,674.00
2016	₹118,243,580,000.00	7,011,969	₹229,360,904,506.00	₹13,552,388,158.00
2017	₹144,497,230,000.00	7,226,307	₹239,619,054,400.00	₹14,421,162,331.00
2018	₹153,598,640,000.00	7,265,882	₹263,553,846,200.00	₹15,216,786,174.00
2019	₹156,721,190,000.00	7,029,296	₹286,451,740,650.00	₹16,835,107,490.00

In 2014, Grameen Bank had superior efficiency compared to its counterpart, with an efficiency score of 95.8%, indicating that the bank's managers possess a higher level of effectiveness in expense management. In contrast, Akhuwat had the most modest performance, with a score of 54.1 percent, reflecting a decline of 10% compared to the preceding year.

In 2015, there was a marginal drop in the efficiency of Grameen Bank compared to the previous year, with a recorded value of 92.0%. On the other hand, Akhuwat had a continuous decline in efficiency, reaching a level of 53.8%.

In the subsequent year, 2016, Akhuwat persisted in allocating resources inefficiently, resulting in a technical efficiency score of 42.5%, while Grameen experienced a slight increase of 1%, achieving a technical efficiency score of 92.9%.

In the following year, 2017, Grameen Bank exhibited exceptional efficiency, achieving a perfect score of 100%. In contrast, Akhuwat exhibited the least favorable performance, evidenced by its modest technical efficiency score of 32.7% for the year. This figure suggests a substantial misallocation of inputs, estimated at 67%. Recognizing the need for action, the organization's management was motivated to achieve optimal performance in the subsequent year (2018), where they attained a remarkable score of

Table 2. Inputs and Outputs Data for Akhuwat MF from 2013 to 2019

Akhuwat nonprofit Microfinance				
	In Pakistani Rupee			
	OUTPUT		INPUT	
	Gross loan portfolio	Number of active borrowers	Total assets	Operating expenses
2013	Rs1,562,109,170	234,883	Rs2,781,636,555	Rs184,449,919
2014	Rs2,465,624,945	367,798	Rs4,048,211,442	Rs339,373,570
2015	Rs4,830,627,114	496,458	Rs6,708,308,892	Rs477,285,477
2016	Rs8,063,573,444	619,396	Rs10,316,587,106	Rs754,467,746
2017	Rs13,141,243,310	731,302	Rs16,577,640,435	Rs1,211,623,153
2018	Rs16,566,887,611	965,612	Rs2,002,351,604	Rs499,703,485
2019	Rs13,009,830,877	898,755	Rs2,224,908,912	Rs652,439,857

Table 3. DEA results

	Grameen Bank			Akhuwat Bank		
	Technical efficiency from CRS DEA (crste)	Pure Technical efficiency from (vrste)	Scale efficiency (scale) = crste/vrste	Technical efficiency from CRS DEA (crste)	Pure Technical efficiency from (vrste)	Scale efficiency (scale) = crste/vrste
2013	1.000	1.000	1.000	0.659	1.000	0.659
2014	0.958	0.960	0.998	0.561	0.712	0.787
2015	0.920	0.955	0.964	0.538	0.623	0.864
2016	0.929	0.929	1.000	0.425	0.464	0.915
2017	1.000	1.000	1.000	0.327	0.353	0.927
2018	1.000	1.000	1.000	1.000	1.000	1.000
2019	0.962	1.000	0.925	0.838	0.900	0.931
Mean	0.967	0.978	0.984	0.621	0.722	0.869

100% in both technical and pure efficiency, thereby aligning with their conventional counterpart, who had also achieved a comparable score of 100% during the same period.

During the final year of the research (2019), both institutions had a slim loss in performance. Grameen witnessed a relatively smaller drop of 4%, resulting in an efficiency score of 96.2%, while Akhuwat experienced a more significant decline of 16%, leading to an efficiency score of 83.8%.

The mean efficiency score throughout the seven-year study period is recorded as 62.1% for Akhuwat, whereas Grameen exhibits a significantly higher mean efficiency score of 96.7%.

Moreover, our research findings suggest that the inefficiency observed in both institutions can be attributed to pure technical inefficiency rather than scale efficiency; this implies that these institutions are functioning below the production frontier. Ultimately, the aforementioned findings suggest that the governing bodies in these countries must improve the efficacy of these establishments by exploring input wastage.

5 Recommendations and Conclusion

In conclusion, the operational efficiency of Grameen Bank and Akhuwat Microfinance will be examined, and several significant implications, limits, and avenues for further research will be underscored.

● **Implications:**

The study demonstrates notable disparities in operational efficiency between Grameen Bank and Akhuwat Microfinance. The findings suggest that Grameen Bank had superior technical efficiency compared to Akhuwat, implying that it demonstrated more effective resource management.

The provision of interest-free loans by Akhuwat is recognized as a distinctive strategy within the microfinance industry. This particular strategy possesses great merits.

The study highlights the necessity for Akhuwat to enhance its operational efficiency since it has been seen that a substantial amount of its inputs are being wasted; this indicates prospective areas in which the company might improve its procedures.

It is also likely prudent for government agencies to contemplate offering subsidies and assistance to groups such as Akhuwat, which assume a pivotal role, particularly during worldwide emergencies such as the COVID-19 pandemic.

● **The study's limitations:**

The primary emphasis of this study is on efficiency metrics within microfinance organizations, with limited exploration of other dimensions such as social effect or customer happiness.

● **Potential Areas for Future Research:**

- Future studies may consider doing a comprehensive analysis to examine further the reasons contributing to the efficiency disparities between Grameen Bank and Akhuwat. This analysis investigates several aspects, such as management strategies, resource allocation, and borrower demographics.
- Examining the long-term viability of microfinance programs, particularly in light of economic and societal obstacles, has the potential to yield significant insights.
- Evaluating the social impact of these microfinance organizations in terms of poverty reduction, women's empowerment, and community development would provide a more holistic perspective on their efficacy.

Including a wider array of microfinance institutions with diverse models and practices in comparative studies can enhance the comprehensiveness of our understanding of the factors that influence efficiency and effectiveness within the sector.

In summary, the research emphasizes the disparities in operational efficiency between Grameen Bank and Akhuwat Microfinance while also proposing potential areas for future investigation to delve deeper into the intricacies and consequences of microfinance organizations. Furthermore, it underscores the necessity of ongoing enhancements in operational methodologies to cater to underprivileged populations and attain the goals of microfinance more effectively.




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The Impact of Supply Chain Strategies on Enhancing Organizational Performance: Mediating Role of Teamwork in Jordanian Government Hospitals

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Abstract. The study sought to determine the impact of teamwork as a mediating variable in the dimensions of supply chain strategies in enhancing organizational performance in all its dimensions in Jordanian government hospitals. The proposed model refers to (supply chain strategies) as an independent variable with its sub variables, (enhancing organizational performance) as a dependent variable with its sub variables, and (teamwork) as an intermediary variable. The study used the descriptive, quantitative, and analytical method to match the problem and objectives of the study. The study population consisted of (5) Jordanian government hospitals in Balqa Governorate. The workforce in the supply departments, amounting to (341) individuals, formed the sampling unit for the comprehensive survey approach. In addition, SPSS was used to conduct statistical analysis and evaluate the study assumptions. The results of the study showed a number of results, most notably the presence of a statistically significant effect at the significance level ($\alpha < 0.05$) of supply chain strategies in enhancing organizational performance in its combined dimensions. The study recommended a number of recommendations, the most important of which are: the necessity of adopting electronic systems and applications for the purposes of supplying medical materials to various internal units and departments to ensure speed of work procedures, speed of completion, and accuracy.

Keywords: Supply Chain · Organizational Performance · Team Work · Government · Jordan

1 Introduction

The business environment has become more complex, which has made organizations face constant confrontations and crises [1, 2]. Organizations have witnessed a number of large and rapid changes and challenges, which constituted a change in the business environment and its operations [3–5], which led to the emergence of the so-called supply chain as a new concept that includes several main activities that contribute to helping

organizations of all types and fields of work to provide their requirements of all kinds in order to ensure their continuity and reach their goals [6]. The desired goals in accordance with its plans aimed at achieving a degree of excellence in its organizational performance [7]. In order to ensure the success of the supply chain work, business organizations need a number of strategies to facilitate the work and performance of supply management, production management, and warehousing management [8], as they are the real artery by increasing the various operational processes of departments, units, and divisions in various organizations, including the flexible strategy and the agile strategy, which are the two most widely used due to the importance of their role in Supplying all supplies to ensure the continuity of work without interruption or delay [9]. Teamwork role has become one of the basics of effective organizational performance that is based on harmony and integration among workers in organizations, and seeks to unify efforts towards job tasks and duties to improve their job performance starting from teamwork teams and teamwork as an administrative method that contributes to exploiting the resources available to organizations in order to ensure Organizational performance that meets the aspirations, visions, and goals of organizations [10]. The impact of supply chain strategies in improving the organizational performance in government hospitals through the role of teamwork as a mediating variable to be able to avoid the challenges of supplying the various necessary requirements optimally without stopping or delaying that may affect the organizational performance of government hospitals in Balqa Governorate. The researchers prompted to study the impact of the supply chain on improving organizational performance and through the role of teamwork in Jordanian governmental hospitals in Balqa Governorate. Accordingly, this study will address previous relevant literature, then the study methodology that will be adopted in analyzing the data, and then the results will be reviewed and the final conclusions will be made.

2 Theoretical Framework

The proposed model indicates (supply chain strategies) as independent variable with its sub-variables in (enhancing organizational performance) as dependent variable with its sub-variables, and (teamwork) as mediator variable as in Fig. 1: A mediator variable on achieving competitive advantage.

Based on the above study model, the following hypotheses were proposed.

Ho1: supply chain strategies in their dimensions (flexible supply strategy, and agile supply strategy) have a positive impact in enhancing the organizational performance in its dimensions (work procedures speed, work completion speed, work accuracy, and work quality) in Jordanian governmental hospitals in Balqa Governorate at the significance level ($\alpha = 0.05$). Sub-hypotheses were constructed out of the main hypothesis:

Ho1-1: supply chain strategies with its dimensions have a positive impact on work procedures speed.

Ho1-2: supply chain strategies with its dimensions have a positive impact on work completion speed.

-Ho1-3: supply chain strategies with its dimensions have a positive impact on work accuracy.

Ho1-4: supply chain strategies in its dimensions have a positive impact on work quality.

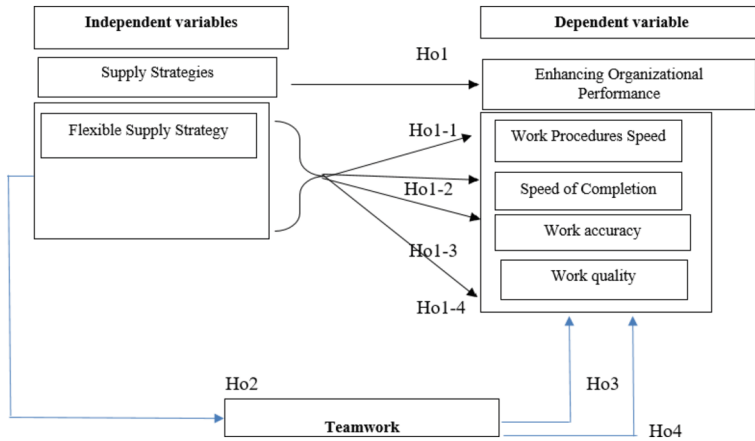


Fig. 1. Theoretical framework

Ho2: supply chain strategies with its dimensions have a positive impact on teamwork.

Ho3: teamwork have a positive impact on enhancing organizational performance with its dimensions.

Ho4: supply chain strategies with its dimensions have a positive impact on enhancing organizational performance with its dimensions (speed of work procedures, speed of completion, work accuracy, and work quality) through teamwork as a mediating variable.

3 Literature Review

3.1 Supply Chain Strategies

Supply Chain Strategies defined as an integrated chain of facilities, activities, and functions related to the production and delivery of a product or service, starting with the primary supplier of raw materials and ending with the final consumer [11–13]. Supply Chain Strategies defined as a process of joint coordination between the various operations such as production, inventory, and transportation between the organizations operating in the supply chain to reach a final mix that is characterized by efficiency and the ability to respond to the requirements of the market [14]. Supply Chain Strategies defined as a special approach to organizing the flow of raw materials and services, from the supplier to the organizations and their warehouses to their products to the final customer [15]. Flexible chain strategy known as a strategy that focuses on competitive advantages in purchasing the necessary materials, such as quality, cost reduction, and delivery and receipt dates [16]. Flexible supply chain strategy defined as a strategy associated with continuous improvement processes, waste reduction, and the search for competitive advantages in material procurement [17]. Agile supply chain strategy is defined as the ability of the organization to rebuild the system and respond quickly to market demands in light of the speed of change in the supply process in terms of the source of materials, prices and other factors that affect the availability of those materials [18]. Agile supply chain strategy defined as the investment of market knowledge to take advantage of the opportunities available in the changing and volatile market [19].

3.2 Enhancing Organizational Performance

The performance of organizations depends on many factors that include all management activities, including marketing, employees, and business at all levels [4, 20]. Organizational performance was defined as the total results of all practices and tasks in organizations, coupled with the planned goals [21–24]. Organizational performance was defined as the organization's ability to transform inputs into outputs that are closely related to the goals of future organizations [25, 26]. Work procedures speed was defined as related to the speed of work procedures to ensure the ease of workflow for employees to meet work requirements in organizations efficiently and without obstacles affecting work productivity and objectives, which contributes to improving functional and organizational performance [27]. Work completion speed was defined as the extent to which organizations and their employees are able to complete the tasks assigned to them within working hours and within time indicators [28]. Work completion speed defined as the sum of the successive steps that transactions go through in advance, in order to achieve speed in completion, and a reduction in the waiting time for customers to obtain the service [29].

Accuracy of work is defined as employees carrying out their duties and job duties without any defect, with mastery, sincerity and skill, while adhering to administrative and financial requirements, and adhering to controls related to the technologies used, within the specified time and time [30]. Work quality has been defined as a number of values associated with the behavior and performance of workers towards their jobs and job tasks to work on mastering them within the standards of job performance in organizations [31]. Work quality was defined as the level of improving the work environment, conditions and procedures, because of its positive repercussions on the productivity and performance of workers in a professional and accurate manner and within the rules of performance [32]. Organizations growth and success in light of technological development, has prompted them to work on the principle of teamwork as one of the main entrances to improving the work environment, improving job productivity, and bringing about positive changes in favor of organizations and their goals [33]. Teamwork as a group participation depends on the integration of personal skills, abilities and potentials [34].

4 Methodology

The method of descriptive quantitative analysis was employed. The study tool collected data based on sample replies, and the statistical package for social sciences (SPSS-Statistical package for social science V22) application was used to analyze the data [35, 36]. The study population was made up of the five (total) governmental hospitals operated by the government of Jordan in the Balqa Governorate. All staff in the supply departments of Jordanian government hospitals in the Al-Balqa Governorate were included in the study sample, whose number is (352) employees were distributed into three categories, they are (5) managers, (39) department head, and (308) employee. (10) Questionnaires were not valid for analysis, and the total number of questionnaires became (342), and a comprehensive survey method used. A special and administrative questionnaire was developed. Cronbach's Alpha test internal consistency was employed, and the values ranged from 0.85 to 0.97, with validity greater than 0.70 and trustworthy consistency [37, 38].

5 Result

5.1 Averages and Standard Deviations in Arithmetic

1st: Institutional Governance (Independent Variable):

Table 1. Arithmetical mean of Supply Chain Strategies

No.	Variables	Mean	S.D	Rank	Degree
1	Flexible Supply Strategy	4.02	.485	1	High
2	Agile Supply Strategy	3.95	.511	2	High
	Overall Mean	4.04			High

Table 1 shows that the flexible supply chain strategy came in first place with a mean of (4.02), followed by the agile supply chain strategy in second place with a mean of (3.95), with a high degree of consistency in the overall mean of (4.31).

2nd: Dependent variable: Performance Enhancement.

Table 2. Arithmetical mean of Enhancing Organizational Performance

No.	Variables	Mean	S.D	Rank	Degree
1	Work Procedures Speed	3.81	.622	4	High
2	Work Completion Speed	3.95	.780	3	High
3	Work Accuracy	3.99	.747	1	High
4	Work Quality	3.97		2	High

Table 2 shows that, to a high degree, the total mean was (3.93), with the work accuracy ranking first with a mean of (3.99) and the work quality ranking last with a mean of (3.97).

5.2 Hypothesis Results

H01: supply chain strategies in their dimensions have a positive impact in enhancing the organizational performance in its dimensions in Jordanian governmental hospitals in Balqa Governorate at the significance level ($\alpha = 0.05$). Sub-hypotheses were constructed out of the main hypothesis:

Table 3. Multiple linear regression results

Dep.Var.	Model sum.		ANOVA			Ind. Vars.	Coefficient				
	R	R ²	F	DF	Sig. F		B	S.D	Beta	t	Sig. t
Performance Enhancement	.514	.264	60.855	2	0.000	Constant	.751	.290		2.587	.010
						Flexible Supply Strategy	.440	.092	.306	4.779	.000
						Agile Supply Strategy	.346	.088	.253	3.953	.000

Table 3, which shows that the alternative hypothesis was accepted and the null hypothesis was rejected, shows that supply chain methods have a beneficial impact on enhancing organizational performance.

Ho1-1: supply chain strategies with its dimensions have a positive impact on work procedures speed.

Table 4. Simple linear regression results

Dep.Var.	Model sum.		ANOVA			Ind. Vars.	Coefficient				
	R	R ²	F	DF	Sig. F		B	S.D	Beta	t	Sig. t
Work Procedures Speed	.858	.752	466.852	2	0.000	Constant	.434	.238		1.826	.069
						Flexible Supply Strategy	.427	.075	.333	5.659	.000
						Agile Supply Strategy	.408	.072	.335	5.690	.000

Table 4 shows that the pace of work processes is positively impacted by supply chain methods. It states that the null hypothesis was rejected and the alternative hypothesis was accepted.

Ho1-2: supply chain strategies with its dimensions have a positive impact on work completion speed.

Table 5. Simple linear regression results

Dep. Var.	Model sum		ANOVA			Ind. Vars.	Coefficient				
	R	R ²	F	DF	Sig. F		B	S.D	Beta	t	Sig. t
work completion speed	.480	.230	50.628	2	0.000	Constant	.640	.332		1.928	.055
						Flexible Supply Strategy	.443	.105	.276	4.209	.000
						Agile Supply Strategy	.376	.100	.246	3.760	.000

Table 5 shows that supply chain methods have a favorable effect on the pace of work completion. It states that the null hypothesis was rejected and the alternative hypothesis was accepted.

Ho1–3: supply chain strategies with its dimensions have a positive impact on work accuracy.

Table 6. Simple linear regression results

Dep. Var.	Model sum.		ANOVA			Ind. Vars.	Coefficient				
	R	R ²	F	DF	Sig. F		B	S.D	Beta	t	Sig. t
Work Accuracy	.415	.172	35.214	2	0.000	Constant	1.246	.329		3.783	.000
						Flexible Supply Strategy	.445	.105	.289	4.259	.000
						Agile Supply Strategy	.232	.099	.159	2.337	.020

The supply chain techniques have a beneficial impact on work correctness, according to Table 6, which also shows that the alternative hypothesis was accepted and the null hypothesis was rejected.

Ho1–4: supply chain strategies in its dimensions have a positive impact on work quality.

Table 7. Simple linear regression results

Dep.Var.	Model sum.		ANOVA			Ind. Vars	Coefficient				
	R	R ²	F	DF	Sig. F		B	S.D	Beta	t	Sig. t
Work Quality	.480	.230	50.628	2	0.000	Constant	.684	.376		1.928	.070
						Flexible Supply Strategy	.446	.119	.251	4.209	.000
						Agile Supply Strategy	.368	.113	.218	3.242	.001

Table 7 shows that the supply chain techniques have a beneficial effect on the caliber of the work produced, that the null hypothesis was rejected and that the alternative hypothesis was supported.

Ho2: supply chain strategies with its dimensions have a positive impact on teamwork.

Table 8. Simple linear regression results

Dep.Var.	Model sum.		ANOVA			Ind. Vars.	Coefficient				
	R	R ²	F	DF	Sig. F		B	S.D	Beta	t	Sig. t
Teamwork	.398	.158	31.881	2	0.000	Constant	1.010	.396		2.554	.011
						Flexible Supply Strategy	.708	.126	.386	5.641	.000
						Agile Supply Strategy	.029	.119	.016	.239	.811

Table 8 shows that supply chain tactics have a beneficial effect on teamwork, and that the null hypothesis was rejected while the alternative hypothesis was supported.

Ho3: teamwork have a positive impact on enhancing organizational performance with its dimensions.

Table 9. Simple linear regression results

Dep.Var.	Model sum.		ANOVA			Ind. Vars.	Coefficient				
	R	R ²	F	DF	Sig. F		B	S.D	Beta	t	Sig. t
Enhancing Organizational Performance	.896	.802	1379.649	2	0.000	Constant	1.110	.078		14.266	.000
						Teamwork	.703	.019	.896	37.144	.000

Table 9, which shows that the alternative hypothesis was accepted, and the null hypothesis was rejected, shows that supply chain tactics have a beneficial impact on teamwork. Table 10 shows the path analysis of the mediator variable.

Table 10. Path analysis of the mediator Variable

			Estimate	S.E.	C.R.	P
SCS	<---	TW	.697	.115	6.050	0.000
TW	<---	EOP	.493	.022	22.635	***
SCS	<---	EOP	.256	.035	7.392	***
		Direct Effects				Indirect Effects
		SCS	TW		SCS	TW
TW		.697	.000		.000	.000
EOP		.256	.493		.344	.000

SCS: Supply Chain Strategies,

EOP: Enhancing Organizational Performance

TW: Teamwork

5.3 Discussion

The following findings were found a positive statistical impact of supply chain strategies with its dimensions (flexible chain strategy, and agile chain strategy) in enhancing the organizational performance in its dimensions (work procedures speed, work completion speed, work accuracy, and work quality) in Jordanian governmental hospitals in Balqa Governorate at the significance level ($\alpha = 0.05$). As a result, the null hypothesis was disproved and the alternative hypothesis was accepted, and a positive statistical impact of supply chain strategies with its dimensions (flexible chain strategy, and agile chain strategy) in each dimension individually. Based on this result, the alternative hypothesis was accepted and the null-hypothesis was rejected. Also, were found a positive statistical impact of supply chain strategies with its dimensions (flexible chain strategy, and agile chain strategy) in team work as mediator variable, and positive statistical impact of teamwork in enhancing organizational performance, and were found a positive statistical impact of supply chain strategies with its dimensions (flexible chain strategy, and agile chain strategy) in enhancing organizational performance through teamwork as a mediator

variable. This outcome led to the null hypothesis being rejected and the alternative hypothesis being accepted. This outcome was consistent with the findings of the research of [27, 39–45].

6 Conclusion

The current study come-up with a theoretical and practical contribution to assist decision makers of organizations in different sectors to enhance organizational performance and organizational environment. Also, a new model was developed based on the concept of supply chain strategies dimensions to provide organizations management by a new concept to be adopted to enhance organizational performance. The researchers conclude that the supply chain strategies with its dimensions (flexible chain strategy, and agile chain strategy) in enhancing the organizational performance in its dimensions (work procedures speed, work completion speed, work accuracy, and work quality) in Jordanian governmental hospitals in Balqa Governorate it plays a positive role in enhancing organizational performance based on its advantages in enhancing governmental hospitals supply work procedures, work completion, work accuracy, and work quality enable ensure the flow of medical materials for hospitals various internal units and departments without delay to enable that hospitals to enhance its functional and organizational performance with high efficiency and effectiveness by adopting electronic systems and applications for the purposes of supplying materials in a tight disciplined manner. The researchers assured that supply chain strategies can be dealt with among other variables due to the importance of supply chain strategies role in various sectors and its positive impact on organizational performance and employee's ethical behavior in a way that serves the interests of all organizations management.

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The Impact of Institutional Governance in Performance Enhancement of the Jordanian National Assembly Members

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Abstract. The study aimed to test the impact of institutional governance in its dimensions (rule of law, accountability, transparency, and active participation, decentralization, and decision rationalization) in performance enhancement in its dimensions (work speed, work creativity, and work quality) of Jordanian National Assembly members. The study relied on the quantitative analytical descriptive approach for its suitability with the nature of the problem and the objectives of the study. The study population included the Jordanian National Assembly. As for the sampling unit, the comprehensive survey method was used, which included all members of the Jordanian National Assembly, whose total number is (195) members. SPSS program was used for the purposes of statistical analysis and testing the hypotheses of the study. The study found a number of results and the most is: A positive impact at the level of statistical significance ($\alpha \leq 0.05$) of institutional governance in its dimensions in performance enhancement in its dimensions. The study recommended a number of recommendations, the most prominent is: A comprehensive review of the principles, rules and controls of institutional governance governing the Jordanian National Assembly to their duties on defining the constitutional, legal and administrative references, and more granted powers.

Keywords: Institutional governance performance enhancement · Jordanian National Assembly

1 Introduction

There is competition and challenges in all sectors and at the level of private and governmental institutions [1–3]. Hence, various types of management are arranged to include traditional and modern [4]. This is due to the multiplicity of customers' desires and mood swings [5, 6]. Accordingly, there has also become a debate, even at the level of the public sector, which showed importance of Corporate governance is one of the modern management concepts, which is related to the method and method of management practice,

which is based on managing the relationship between senior management and relevant parties in organizations in accordance with prevailing laws, regulations and standards and is governed by several rules, controls and principles such as transparency, disclosure, accountability, and quality of performance to achieve effective performance and objectives. Desired, taking into account the interests of all parties involved [7, 8]. Institutional governance is concerned with addressing deviations, transgressions, challenges and difficulties facing organizations [9], which in turn ensures control of work procedures within an institutional approach and in various administrative units and at various levels, and its pursuit of achieving goals effectively, controlling internal processes and procedures, implementing plans, strengthening the role of control over various operations, and compliance With the approved legislation, the proper use of the powers of decision makers, and the development of the capabilities and capabilities of organizations to improve the level of their institutional performance in a way that serves the interests of organizations [10].

Governmental and private organizations always strive to improve performance, which is reflected directly on customers and citizens through the services provided and the available products [1, 11, 12]. Effective and successful of the Jordanian National Assembly members required a number of principles, controls and foundations to improve their legislative and oversight performance, in both the deputies and notables. Hence, the problem of the study arose to identify the extent of the National Assembly's commitment to the application of institutional governance aimed to enhance the performance of Jordanian National Assembly members, which will contribute to controlling the work of the legislative and oversight members, and enhancing their performance in terms of speed of work, creativity in work, and the quality of assembly member's duties. Based on the dimensions of the study, its importance, the focus of its variables and its problem. Accordingly, the current study will address an introduction to the field of study, then previous literature for the purposes of arriving at the study model and hypotheses, then the methodology of the study and analysis, and finally the conclusions and limitations.

2 Theoretical Framework

The proposed model indicates (institutional governance) as independent variable with its sub-variables in (Performance Enhancement) as dependent variable with its sub-variables as in Fig. 1:

Based on the above study model, the following hypotheses were proposed

Ho- There is no statistically significant impact of institutional governance in its dimensions in performance enhancement in its dimensions in the Jordanian National Assembly members at the significance level ($\alpha = 0.05$). Sub-hypotheses were constructed out of the main hypothesis:

Ho1: There is no statistically significant impact of institutional governance in its dimensions in work speed at the significance level ($\alpha = 0.05$).

Ho2: There is no statistically significant impact of institutional governance in its dimensions in work creativity at the significance level ($\alpha = 0.05$).

-Ho3 There is no statistically significant impact institutional governance in its dimensions at the significance level ($\alpha = 0.05$) in work quality.

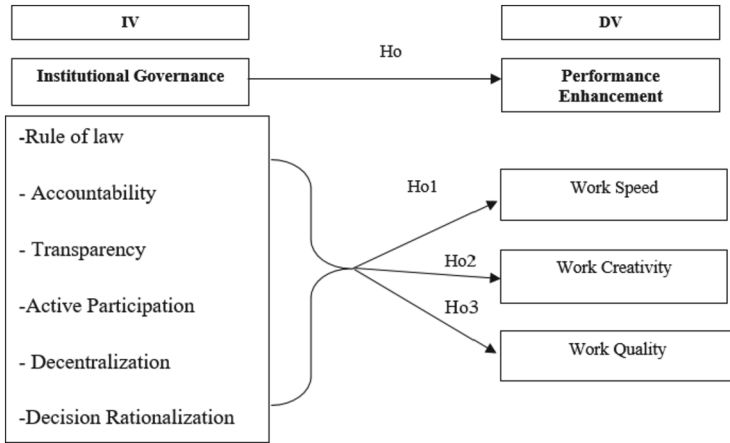


Fig. 1. Theoretical framework

3 Literature Review

Governance is one of the new concepts in the science of management and is related to the term “governance” which denotes in its meaning the control and good management of public affairs in various institutions, which indicates that it is a good government or good administration [13]. The main reason for the interest in applying governance was due to several reasons, especially in light of the significant decline in performance, in addition to a weakness in the departments responsible for leading organizations and their goals towards success and distinction in their achievements, which prompted decision makers in various sectors to reconsider all their functions, operations, employees and behaviors [14]. It is subject to a set of controls and principles that are binding on everyone, with the aim of controlling workflow, reducing risks, improving the work environment, and raising the level of performance to serve the public interest of all relevant parties [15].

3.1 Institutional Governance

Governance was defined as the method or manner in which organizations adhere to their functions in various sectors for the sake of social and economic development, which includes all governmental and non-governmental institutions, civil society institutions, and private sector organizations [16]. Governance was defined as the exercise of political power, optimal use of institutional resources, and good management of public issues to work on addressing them in a way that serves the public interest, within specific controls, including justice, transparency, accountability, and imposing the rule of law on everyone [17]. Governance is applied through the scope of the public administration to control the abuses of official governments, which makes the public administration more committed, transparent and accountable [18].

Rule of law aims to preserve and sustain the regulating legal rules and foundations that are fair and equitable as one of the rules of corporate governance in organizations [19]. Thus, legislation, regulations, and laws are the legal cover for the application of

institutional governance to be the legal control regulating the performance, behavior, and roles of governments and organizations in order to achieve high-level results according to institutional performance indicators. Accountability is one of the principles of corporate governance, which is related to the procedures necessary to hold accountable acts in violation of legislation, laws, and regulatory systems, and to ensure the implementation of all procedures to monitor all employee practices to ensure that everyone complies with the orders of managing organizations without transgressions that may expose violators to legal accountability [20]. Defined as specific and clear rules used in the decision-making process and subject to governing mechanisms of control procedures [21]. Transparency is known as a basic rule of corporate governance, which aims to exclude or remove doubt or ambiguity regarding the decision-making process. Transparency relies on a number of clear and easy-to-understand principles and standards [22]. Active participation has been defined as representing the extent to which workers participate in the decision-making process, presenting ideas and discussing them freely with the aim of promoting teamwork based on the participation of all in creating a functional and organizational environment of high quality and suitable for all [23]. Decentralization is defined as the delegation of authority and decision-making to a specific person from the staff and within certain conditions and criteria that are available to the appropriate person to exercise certain powers as required by the interests of organizations and their desired goals [24].

Decision rationalization has been known as an explanation of the stages of the decision-making process, which is based on the principle of rationality and the rules of clarity and rationality, so that the decision in all its stages takes into account the interests of all relevant parties without imbalances, bias, or any harm that may be caused to their interests and rights [25].

3.2 Performance Enhancement

Enhancing organizations performance has a significant and effective contributes [1, 26], the most important of which enhancing working conditions, enhancing the level of job performance of employees, raising the efficiency and effectiveness of work [27, 28] achieving stability and continuity for organizations, achieving job excellence for employees, improving the level of work motivation among employees, reducing work costs, and making optimal use resources for organizations [28–31].

Work speed of workers' performance of their job tasks and duties depends on their self-monitoring, their job capabilities and skills, and the workers' sense of job satisfaction, which forms effective motives for them towards their tasks to do them as quickly as possible without delay or pause [32]. Modern electronic technologies must be employed in all business organizations and in various sectors to achieve Work creativity development [33–35]. It is necessary to enhance knowledge in business organizations [36]. Achieve Work quality has been defined as a number of values associated with the behavior and performance of workers towards their jobs and job tasks to work on mastering them within the standards of job performance in organizations [37].

4 Methodology

The descriptive quantitative analytical method was used. Statistical package for social sciences (SPSS- Statistical package for social science V22) program was used to analyze the data that was collected according to the sample answers were collected by the study tool [38–40]. The study population consisted of the study of the Jordanian Assembly, in the two parts (senators and parliament). The study sample will include all members of the Jordanian Assembly, who are (65) senators and (130) parliament. A comprehensive survey method used, with a total number of (195). A special and administrative questionnaire was developed. Cronbach's Alpha test for internal consistency was used, and the values were ranged between (0.76–0.86), where the validity was more than (0.70), and the consistency was reliable [41, 42].

5 Result

5.1 Arithmetic Averages and Standard Deviations

1st: Institutional Governance (Independent Variable):

Table 1. Arithmetical mean of Institutional Governance

No.	Variables	Mean	S.D	Rank	Degree
1	Rule of law	4.23	.896	5	High
2	Accountability	4.39	.825	1	High
3	Transparency	4.36	.860	2	High
4	Active Participation	4.36	.863	3	High
5	Decentralization	4.18	.914	6	High
6	Decision Rationalization	4.31	.917	4	High
	Overall Mean	4.31			High

Table 1 indicates that the accountability was in the first rank, with a mean of (4.31), and decentralization was the last rank with a mean (4.18), and the overall mean of was (4.31) with a high degree.

2nd: Dependent variable: Performance Enhancement

Table 2 indicates that the work speed was in the first rank with a mean of (4.11), and work quality was in the last rank with a mean (4.08), and the overall mean was (4.10), with a high degree.

Table 2. Arithmetical mean of Performance Enhancement

No.	Variables	Mean	S.D	Rank	Degree
1	Work Speed	4.11	.912	1	High
2	Work Creativity	4.10	.912	2	High
3	Work Quality	4.08	.933	3	High
	Overall Mean	4.10			High

5.2 Hypothesis Results

Ho: There is no statistical significant impact of institutional governance in its dimensions in performance enhancement in its dimensions in the Jordanian National Assembly members at the significance level ($\alpha = 0.05$).

Table 3. Multiple linear regression analysis results

Dep. Var.	Model sum.		ANOVA			Ind. Vars.	Coefficient				
	R	R2	F	DF	Sig. F		B	S.D	Beta	t	Sig. t
Performance Enhancement	.869	.766	522.462	2	0.000	Constant	.711	.146		4.866	.000
						Rule of law	.604	.039	.687	11.658	.000
						Accountability	.566	.028	.412	10.145	.000
						Transparency	.586	.032	.577	10.224	.000
						Active Participation	.511	.029	.452	10.477	.000
						Decentralization	.508	.034	.589	9.322	.000
						Decision Rationalization	.586	.028	.423	11.228	.000

Table 3 indicates that the institutional governance has a positive impact on performance enhancement. Mains that the alternative hypothesis was accepted and the null-hypothesis was rejected.

Ho1: There is no statistical significant impact of institutional governance in its dimensions in work speed at the significance level ($\alpha = 0.05$).

Table 4. Simple linear regression results

Dep. Var.	Model sum.		ANOVA			Ind. Vars.	Coefficient				
	R	R2	F	DF	Sig. F		B	S.D	Beta	t	Sig. t
Work Speed	.858	.752	466.852	2	0.000	Constant	.672	.154		5.116	.000
						Rule of law	.677	.041	.694	12.244	.000
						Accountability	.586	.036	.533	11.635	.000
						Transparency	.592	.034	.562	10.364	.000
						Active Participation	.566	.031	.524	10.652	.000
						Decentralization	.558	.032	.568	10.562	.000
						Decision Rationalization	.577	.030	.579	11.662	.000

Table 4 indicates that the institutional governance has a positive impact in work speed. Mains that the alternative hypothesis was accepted and the null-hypothesis was rejected.

Ho2: There is no statistical significant impact of institutional governance in its dimensions in work creativity at the significance level ($\alpha = 0.05$).

Table 5. Simple linear regression results

Dep. Var.	Model sum.		ANOVA			Ind. Vars.	Coefficient				
	R	R2	F	DF	Sig. F		B	S.D	Beta	t	Sig. t
Work Creativity	.921	.792	512.633	2	0.000	Constant	.566	.142		6.102	.000
						Rule of law	.682	.043	.711	11.355	.000
						Accountability	.644	.041	.679	10.221	.000
						Transparency	.598	.039	.672	10.566	.000
						Active Participation	.577	.036	.641	9.994	.000
						Decentralization	.568	.035	.624	10.641	.000
						Decision Rationalization	.549	.032	.652	10.545	.000

Table 5 indicates that the institutional governance has a positive impact in work creativity. Mains that the alternative hypothesis was accepted and the null-hypothesis was rejected.

Ho3: There is no statistically significant impact of institutional governance in its dimensions in work quality at the significance level ($\alpha = 0.05$).

Table 6. Simple linear regression results

Dep. Var.	Model sum.		ANOVA			Ind. Vars.	Coefficient				
	R	R2	F	DF	Sig. F		B	S.D	Beta	t	Sig. t
Work Quality	.891	.812	412.846	2	0.000	Constant	.548	.139		6.336	.000
						Rule of law	.629	.042	.652	12.226	.000
						Accountability	.658	.040	.679	11.168	.000
						Transparency	.598	.039	.686	10.377	.000
						Active Participation	.584	.038	.689	10.242	.000
						Decentralization	.575	.036	.692	10.156	.000
						Decision Rationalization	.562	.035	.698	10.078	.000

Table 6 indicates that the institutional governance has a positive impact in work quality. Mains that the alternative hypothesis was accepted and the null-hypothesis was rejected.

6 Discussions

The following results were found after analyzing the study data, as the total arithmetic mean for corporate governance was (4.31), and the total arithmetic means for improving performance was (4.10), both of which indicate a high degree. There is also a positive statistical effect of corporate governance with its sub-variables (rule of law, accountability, transparency, active participation, decentralization, decision rationalization) in enhancing performance in its dimensions (work speed, work creativity, work quality) for Jordanians. Members of the National Assembly. Based on this result, the alternative hypothesis was accepted and the null hypothesis was rejected. This result is consistent with the results of studies [30, 43]. The positive statistical impact of institutional governance with its sub-variables (rule of law, accountability, transparency, effective participation, decentralization, rationalization of decision) on the work creativity of members of the Jordanian National Assembly. Based on this result, the alternative hypothesis was accepted and the null hypothesis was rejected. Also, the positive statistical effect of

institutional governance with its sub-variables (rule of law, accountability, transparency, effective participation, decentralization, decision rationalization) on the quality of work of members of the Jordanian National Assembly. Based on this result, the alternative hypothesis was accepted and the null hypothesis was rejected. In addition, the positive statistical effect of institutional governance with its sub-variables (rule of law, accountability, transparency, effective participation, decentralization, rationalization of decision) on the speed of work of members of the Jordanian National Assembly. Based on this result, the alternative hypothesis was accepted and the null hypothesis was rejected.

7 Conclusion

The current study come-up with a theoretical and practical contribution to assist organizations management to enhance work performance and organizational work environment. Also, a new model was developed based on the concept of institution governance dimensions were as: (rule of law, accountability, transparency, active participation, decentralization, decision rationalization) in performance enhancement in its dimensions (work speed, work creativity, and work quality) to provide organizations management by a new concept to be adopted to enhance organizational work environment. The researchers conclude that the institutional governance with its sub- variables (rule of law, accountability, transparency, active participation, decentralization, decision rationalization) in performance enhancement in its dimensions (work speed, work creativity, and work quality) of the Jordanian National Assembly members it plays a positive role in performance enhancement of the Jordanian National Assembly members by practicing the principles of institutional governance because of its advantages in the parliamentary institutional work environment enhancement and controlling work procedures within governing rules that prevent deviations and abuses and correct work in accordance with the directions and decisions issued by the parliament based on the rule of law.

7.1 Study Limitations and Future Implications

The researchers assured that the institutional governance can be dealt with among other variables due to the importance of its institutional role in various sectors and its positive impact on job performance and job and ethical behavior in a way that serves the interests of all relevant parties and serves the public interest. Researchers recommend more future conducted studies concerning the institutional governance on performance enhancement by other dimensions as well as employee's attitudes, behaviors, and ethical issues in different organizational environments.

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Basel III Liquidity Regulations and Financial Intermediation in Pakistan

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Abstract. Basel III liquidity standards were issued to augment the sustainability of the banking system. Nevertheless, it is imperative to comprehend the implications of these standards on other significant facets of the banking industry. Hence, this research aimed at identifying the impact of these regulations on the financial intermediation cost of the banking industry of Pakistan. In this research data from seventeen banks have been used for the period 2007 to 2021. A robust fixed effect model has been applied in the study and the robustness of the result is tested by the Driscoll Kraay covariance estimator and two-step difference generalized method of moments (GMM). Results show a significant negative impact of the liquidity coverage ratio and an insignificant impact of the net stable funding ratio on the banking cost of financial intermediation in Pakistan. These results highlight the potential unintended consequences of liquidity regulations on bank costs. Increased demand for high-quality liquid assets may lead to higher asset prices, which could further impact banks' cost of intermediation. Thus, policymakers should carefully monitor this trend to ensure that it does not result in market distortions or negative consequences for banking costs.

Keywords: Cost of financial intermediation · Basel III regulations · Liquidity coverage ratio · net stable funding ratio · net interest margin

1 Introduction

In any economy, banks perform a crucial function as financial arbitrators. They provide funds to the deficit units that are received from the surplus units. Research has shown that the level of banking intermediation in an economy is strongly linked to its economic growth (Demirgüç-Kunt & Huizinga, 1999). The importance of intermediation is even greater in bank-based economies (Talbi & Bougateg, 2018), where the banking industry constitutes a major portion of the country's financial industry and therefore, the private sector heavily relies on bank loans. A noteworthy impact of expenses associated with financial intermediation has been found on the scope and reach of the banking system. The ratio of interest spread is a widely used metric to assess the effectiveness of financial intermediation. It is calculated as a ratio between the differential between lending and deposit rates to the net assets of the bank. This ratio is known as net interest margin (NIM) (Das Gupta et al., 2021). Factors affecting NIM are identified by Ho and Saunders, (1981)

in their groundbreaking research “the dealership approach”, and over the years, these factors have been expanded.

The identification and mitigation of operational risk are part of the risk-based approach to financial intermediation. As part of this strategy, the risks associated with various operations of financial intermediation are identified, and the necessary risk management strategies are put into place to mitigate those risks. For instance, financial intermediaries manage credit risk by calculating lending rates based on the level of risk and the creditworthiness of borrowers. Credit derivatives are additionally utilized to manage the risk. Financial intermediaries utilize derivatives to reduce exposure to market volatility, diversify their investment portfolios to guard against interest rate risk and manage liquidity risk. They also manage asset-liability mismatches and maintain enough liquidity buffers to manage liquidity risk. To manage operational risk, these intermediaries establish robust internal controls, systems and procedures to prevent operational failures, fraud and errors. As a result, it can be claimed that a risk-based approach to financial intermediation encourages safe and sound financial intermediation and helps to keep the financial system stable and make it more resilient.

The Global Credit Crunch of 2008 increased the awareness of the vulnerability of the banking industry towards mitigation of liquidity risk management. The Basel Committee for Banking Supervision (BCBS) responded to this problem by releasing the Basel III framework, which sought to strengthen the banking system’s resilience by addressing the drawbacks of preceding frameworks concerning financing instability and illiquidity (BIS, 2010). Liquidity risk management is one of the major concerns of Basel III regulations. Basel III liquidity regulations provide a risk-based framework for financial intermediaries to monitor and control liquidity risk. The BCBS released the liquidity framework for banking institutions to control the spread of systemic risks and ensure that financial intermediaries have enough liquidity to withstand liquidity stress situations. By keeping an acceptable amount of stable funding sources and high-quality liquid assets (HQLA), banks must comply with Basel III liquidity standards that mandate the maintenance of two liquidity measures, namely the liquidity coverage ratio (LCR) and net stable funding ratio (NSFR). Moreover, it emphasizes the establishment of a robust framework for liquidity risk management, that includes the development of effective and efficient monitoring and reporting mechanisms, articulation of a clear policy, and conduct of frequent stress tests to gauge liquidity resilience.

The recommendations given by Basel III on liquidity also stress the importance of a risk-based approach for liquidity risk management, that requires tailored liquidity risk management practices to the unique risks that each financial intermediary faces. When employing this strategy, financial intermediaries must evaluate the liquidity risk profile. This profile must include information about financing arrangements, market reach, and cash flow forecasts. These are required to ascertain the capacity of liquidity risk tolerance and to create the most effective risk management plans. It can be said that Basel III liquidity regulations provide banks with a framework for liquidity risk management in a risk-based way, by ensuring the availability of sufficient liquidity to withstand liquidity stress events and to prevent systemic risk.

Based on the above discussion it can be argued that even though the focus of Basel III liquidity guidelines is to improve banking stability, implementation of these guidelines

may have an impact on other key areas of the banking institutions such as financial intermediation. Therefore, this research aimed at understanding the manner in which financial intermediation cost is affected by these regulations in a bank-based economy i.e., Pakistan. For this purpose, data from seventeen commercial banks is used for a period from 2007 to 2021. The robustness of findings is evaluated by using the two-step difference generalized methods of moments (GMM) approach.

The research is structured as follows: The literature review on Basel III and financial intermediation is presented in the next section. The methodology adopted and the characteristics of data and variables are presented in Sect. 3. Section 4 presents the explanation of empirical findings in Sect. 4. Lastly, in Sect. 5 conclusion of the study is presented.

2 Literature Review

2.1 Theory of Financial Intermediation

In a world where market imperfection and frictions exist, investors cannot find borrowers on their own and they cannot perform efficient allocation of their funds. Therefore, there is a need for an intermediary to mediate between investors and borrowers of financial capital. Financial intermediaries could be banking or non-banking financial institutions. Gurley and Shaw, (1960) are regarded as the pioneers of the theory of financial intermediation. Furthermore, this theory draws inspiration from both agency theory and informational asymmetry theory. According to Gurley and Shaw, (1960), the primary activity of these financial intermediaries is to transmute financial instruments issued by the firms i.e., shares and bonds, into those securities that are demanded by investors or depositors. Financial intermediaries are needed in the economy because they help investors and borrowers in risk division and transformation, which is not possible on their own because of the high transaction cost. Benston and Smith, (1976) suggested that transactional costs are the central point of this financial intermediation theory. However, Leland and Pyle, (1977) disagreed with the reason and implied that financial intermediaries exist because of informational asymmetries.

Santos, (2001), presented the two most notable justifications for the presence of financial intermediaries. The first is the liquidity provision and the second is the monitoring services provision. Banks serve a key role as liquidity providers because they provide liquidity insurance to depositors Bryant, (1980) and also provide monitoring services to investors by acting as delegated monitors and hence avoiding any duplication of monitoring costs. The currently prevailing financial intermediation theory implied that banks are merely financial intermediaries that receive deposits and disburse the same, much like other non-bank financial companies. Some authors claim that banks use the credit received from depositors in the form of demand deposits that by nature considered to be a current liability and advance it to borrowers who need them for a longer time (Dewatripont et al., 2010). As a result, banks generate liquidity through both long-term advances and short-term borrowing.

2.2 Cost of Financial Intermediation

There has been a surge in interest of researchers in NIM after the global financial crisis. This is evidenced by studies conducted by Afrin et al., (2022). As previously mentioned

NIM can be employed as an estimate of efficiency and the financial intermediation cost, both of which are crucial for promoting economic growth, because higher NIM could hinder growth by increasing lending rates which could deter investment and reduce deposit rates that can lead to a decline in savings (Harb et al., 2022; Levine, 2005). Such effects can directly impact the liquidity of banks. NIM has therefore been employed in this study as a proxy for the effectiveness of financial intermediation for banks. It is suggested that higher liquidity might raise banks' net interest margins (NIM) by lowering their funding costs (Dang, 2021). However, Pak, (2020), disagrees with this argument and states that this will result in a negative impact on NIM due to maturity mismatch and declined spread on loans.

2.3 Liquidity Risk Management and Liquidity Regulations

Liquidity risk management deals with balancing the need and availability of liquidity. It can be described as the likelihood of not being able to meet the depositors' needs or being unable to grow funds without undue expenses or losses (Ismal, 2010). Inefficient liquidity risk management leads to bank failures (Chen et al., 2021). The regulatory criteria NSFR is primarily intended to mitigate funding risk, which arises from the discrepancy between banks' assets and liabilities, whereas the LCR focuses on reducing liquidity risk by requiring banks to hold more HQLA. Although not its primary focus, the NSFR may indirectly affect banks' ability to create liquidity and impact market liquidity (BIS, 2013, 2014). Basel III's liquidity requirements are not aimed at market liquidity, but their implementation may have an impact on it. This could happen through an increase in intermediation costs and a shift in the demand for assets with certain attributes, such as high credit quality and longer maturities. Additionally, studies have demonstrated how Basel III liquidity requirements affect the creation of liquidity (Alaoui Mdaghri & Oubdi, 2022; Eshwari & Baby, 2023).

Banks are now required to adjust their asset composition towards HQLA to comply with regulations (Banerjee & Mio, 2018). This results in higher competition for funding categories that are preferred under the rules (Hartlage, 2012). This competition drives up the prices of HQLAs, increasing the financing costs for banks. Fuhrer et al., (2017) have shown that even before the implementation of Basel III LCR, a difference was already present among yields of level 1,2 and non-HQLA. With the introduction of the HQLA premium, this gap has widened. As a result, the marginal cost of purchasing additional units of liquid assets exceeds the relative proceeds, making it less desirable for banks to hold these assets.

3 Data and Research Methodology

The purpose of this research is to examine the effect of liquidity regulations on the commercial banks in Pakistan from 2007 to 2021, with a sample of seventeen out of twenty-five commercial banks operating in Pakistan. Five full-fledged Islamic banks were excluded as their model differs from that of conventional banks and could affect the results (Dolgun et al., 2019). Moreover, one bank that started its operations in 2014 and two banks that have not reported their financials for the last two years were also

excluded. The primary focus of this research is to examine the effect of NSFR and LCR on the intermediation cost of Pakistan's conventional banking industry.

3.1 Variables of the Study

The outcome variable for this study is NIM. It is the ratio of net interest earned to total assets, used as a proxy of the cost of financial intermediation (Das Gupta et al., 2021). The independent variables used in the study are liquidity coverage ratio (LCR) and Net stable funding ratio (NSFR). Due to the lack of sufficient detail in the balance sheet data required for LCR and NSFR computation, LCR and NSFR are calculated using the approaches suggested in the literature. LCR is calculated as a ratio of liquid assets to the sum of deposits and short-term funding as proposed by Chiaramonte and Casu, (2017). It is expected that increased liquidity regulations will lead to higher interest expenses. Thus, it is anticipated that LCR and NIM have a negative relationship. NSFR is calculated by following the factors given by Vazquez and Federico, (2015). The adoption of NSFR is likely to result in a decline in interest income that will subsequently lead to a decrease in NIM. Thus, a negative relationship between NSFR and NIM is anticipated.

The control variables used in this study are Capitalization (CA) is a ratio of equity to total assets, Asset Quality (AQ) is calculated by taking a ratio of non-performing loans to total loans, Inflation (Inf) and Concentration (Conc) that is calculated as a ratio of the sum of the assets of five large banks to the total assets of the banking industry.

Econometric model for the study is as below:

$$NIM_{it} = \beta_0 + \beta_1 NSFR_{it} + \beta_2 LCR_{it} + \beta_3 CA_{it} + \beta_4 AQ_{it} + \beta_5 Inf_{it} + \beta_6 Conc_{it} + \varepsilon_i \quad (1)$$

4 Findings

In this research the data was free from multicollinearity issues and was found stationary. However, it was found that there is a presence of autocorrelation, heteroscedasticity, cross-sectional dependence and endogeneity in the data.

The Breusch Pagan LM test shows that pooled OLS was not a feasible choice for this research. By using Hausman test it was found that fixed effect model (FEM) is the appropriate model for the study. Two variations of the FEM were used to focus on issues of heteroscedasticity and autocorrelation in the data: clustered FEM and FEM with Driscoll Kraay standard errors. Both of these models are known to be robust in the presence of cross-sectional dependence as well. Additionally, to ensure the reliability of the results, a Two-step Difference Generalized Method of Moments (GMM) was applied.

Factors influencing the NIM of banks in Pakistan are presented in Table 1. According to the findings of this research, NSFR does not significantly affect the NIM. But LCR is found to have a significant negative impact on the NIM of banks in Pakistan. Therefore, it can be said that NIM decreases with the increase in the percentage of LCR in Pakistan. These results are also endorsed by Sidhu, et.al, (2022). A negative impact of LCR on NIM implies that the net interest earned by banks in Pakistan decreases with the increase in

HQLA's holdings or if other things are held constant, the expense of holding the HQLA's increases more than the interest earned that can lead towards a decrease in NIM.

The results also highlighted the effect of bank-specific and country-specific variables on the NIM of conventional banks in Pakistan. It is evident from the results that there is a significant impact of all bank-specific variables on NIM. CA has a significant positive impact while AQ has a negative impact on NIM at a 1% significance level. The positive association of CA is as expected. A higher CA indicates that a bank has a stronger financial position and is better equipped to absorb potential losses. In the context of financial intermediation, a higher CA can lead to a positive impact on NIM. This is because banks with higher CA can reduce their funding risks, which in turn reduces their cost of financial intermediation (Adesina, 2021). AQ is found to have a negative impact on NIM. A lower ratio represents better asset quality that subsequently decreases funding cost thus, increasing NIM. Also, a rise in non-performing loans prevents banks from earning the anticipated net interest income, which causes a drop in NIM (Kirimi et al., 2021).

Lastly, the impact of Inf and Conc were evaluated as macroeconomic variables. Results show that Inf has no impact on the NIM of banks in Pakistan. Afrin et al., (2022), also found the same result of inflation on NIM in Bangladesh. Conc, on the other hand, is found to have a significant negative impact on NIM. The negative impact of Conc on NIM is in line with past research (Boamah et al., 2022). This shows that with the increase in Conc, NIM decreases. In a market with greater competition, banks are compelled to compete with each other to retain and acquire customers, which may result in reduced profit margins and a decline in the NIM. This is because, to remain competitive, banks may need to lower their interest rates on loans to tempt borrowers or raise their interest rates on deposits to entice depositors.

Table 1. Estimation results

	Robust FEM	DK	GMM
NSFR	-0.0025 (0.0059)	-0.0025 (0.0039)	0.0012 (0.0025)
LCR	-0.0218*** (0.0055)	-0.0218*** (0.0020)	-0.0119*** (0.0028)
CA	0.0930*** (0.0131)	0.0930*** (0.0270)	0.1737*** (0.0345)
AQ	-0.0210** (0.0094)	-0.0210*** (0.0030)	-0.0036*** (0.0082)
Inf	0.0172 (0.0106)	0.0172 (0.0139)	-0.0110 (0.0094)
Conc	-0.0169**	-0.0169	-0.0356***

(continued)

Table 1. (continued)

	Robust FEM	DK	GMM
	(0.0068)	(0.0149)	(0.0080)
No. of Observations	255	255	204
No. of Banks	17	17	17
R ²	0.4685	0.4685	
F-Stat	11.99***	70.85***	
Chi Sq			137.03***
No. of Instruments			10
Hansen test (p-value)			0.209
AR (2) test (p-value)			0.251

Notes: “This table presents two-step difference generalized methods of moments (GMM) and Dricoll-Kraay (DK) Covariance estimator with NIM, which is a proxy for NIM (dependent variable). NIM is a ratio of the difference between interest income and interest expense with total assets. CA is a ratio of total equity to total assets; AQ is a ratio of non-performing loans to gross loans; Inf is the annual inflation rate (CPI); Conc is a ratio of assets of 5 large banks to total industry assets. The sample is comprised of 255 fir-year observations across 17 banks for the period 2007–2021. ***, ** and * represent significance at the 1%, 5% and 10% levels, respectively.”

5 Conclusion

The findings of the study show that while LCR has a significant negative impact on NIM, NSFR has no discernible effect on NIM. According to the results, short-term liquidity is a determining factor of NIM in comparison to funding liquidity. The negative influence of LCR on NIM can be translated as an increment in LCR will lead to a decrease in NIM. This suggests that holding too much amount in high-quality liquid assets can decrease the interest margin of banks in Pakistan. Numerous reasons are possible for this relationship. First, increased investment in HQLAs leads towards a decline in the interest income of banks. Second, there has been a shift in the asset composition of banks in Pakistan. Banks are now investing more in liquid but lower-yielding assets than in more profitable assets. Third, with the increase in investment in HQLAs lending activities of banks may also be affected. To keep more HQLA banks must lend lesser than before, hence resulting in a decrease in NIM. Also, King, (2013), argued that an increase in holding HQLAs will increase interest expense that consequently has an impact on the NIM of banks. Therefore, policymakers must carefully consider this implication and do the needful changes to achieve an optimal balance.

The findings of this research draw attention to a possible unexpected consequence of the liquidity regulations issued by Basel III on the financial intermediation cost of banks. These rules aim to strengthen the banking sector’s stability and make banks more resilient and shock resistant. However, it is necessary to analyse how these regulations would affect other significant factors, such as the financial intermediation cost of banks. Study of control variables shows banks with robust financial positions as indicated by

capital to asset ratio and asset quality are much more likely to enhance NIM, therefore banking institutions should maintain strong capital reserves and devise strategies to manage assets with higher effectiveness to improve NIM.

It is worth mentioning that the results of this study might not essentially apply to other countries or banking systems. However, they can be used to guide policymaking in Pakistan as they offer insightful information about specific factors that influence the financial intermediation cost of banks there. For regulatory reforms to have a beneficial overall effect on the financial system, authorities must carefully weigh the possible costs and benefits. Also, this study does not incorporate other potential control variables that have an influence on the intermediation cost of banks. Lastly, a comparative study between Islamic and conventional banks can be performed to study the variation or similarity of the impact of Basel III liquidity standards on the intermediation costs. This can yield valuable insights for the regulatory authorities and banking industry.

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Factors Affecting the Determinants of Green Purchase Behavior Among Employed Adults in Malaysia

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Abstract. To examine the factors influencing the green purchasing behaviour of employed Malaysians, this study collected data from 330 employed Malaysians and analysed it using a quantitative research approach and the Smart PLS4 partial least squares model consistent with the TPB theory. GPI and GPT had a positive impact on GPB, while GPA and PBC had a negative impact. GPI mediates the relationships between GPT, GPA, PBC, and GPB. This study can be utilised to promote environmentally conscious consumption and as a resource for government and business decisions regarding environmentally conscious consumption.

Keywords: Green Purchasing Behaviour · SmartPLS4 · Employed adults

1 Introduction

The occurrence of environmental crises has made environmental protection a top global issue, leading to an increase in green purchasing habits among consumers and businesses. Pollution is a significant environmental concern in Malaysia due to its ongoing economic growth, and consumers' willingness to opt for green products has the potential to contribute to effective environmental management [1, 3]. Recent research has shown that Malaysians' level of green purchasing is at a moderate level [4, 5], indicating that green purchasing is growing in popularity in Malaysia [2]. Working adults are vital to the Malaysian green economy and have the potential to serve as a potent development and innovation engine. Therefore, this study aims to examine the green purchase factors affecting working adults and provide reference recommendations for the sustainable development sector.

2 Literature Review

2.1 Theoretical Framework

The Theory of Planned Behaviour (TPB), developed by Ajzen in 1985, has been widely applied to comprehend and predict human behaviour in numerous domains, including environmentally behaviours such as green purchase [6, 7]. According to the TPB,

behavioural intentions are influenced by three primary constructs: attitudes toward the behaviour, subjective norms, and perceived behavioural control. In the context of green purchase behaviour, adults' attitudes toward green products, green trust, and perceived ability to engage in such behaviour play crucial roles in determining their intentions to make green purchases [6, 8, 9].

The notion of green purchase was first put forward in 1987 by Peattie and Peattie [10]. According to Mostafa "Green Purchasing Behaviour" (GPB) is the habit of making purchases of sustainable or environmentally friendly goods that are considered "helpful to the environment and are recyclable" [11]. Joshi and Rahman also defined that consumers' Green Purchasing Behaviour is usually analyzed based on their willingness or intention to buy green products, which leads them to buy them for environmental sustainability [12]. In this study, Green Products refer to those that do not pollute or cause damage to the environment.

Fishbein and Ajzen (1975) defined intention to use as the subjective tendency of an individual to use something new or to perform a particular behaviour. A consumer's behavioural intention is a statement that connects the consumer to his or her future behaviour [13]. Summarizing much of the previous literature, researchers have found that there are many factors that influence consumers' green purchase intentions [14–16]. Most social behaviours can be accurately predicted if behavioural intention is measured correctly [17]. It has also been suggested that consumers' intention directly affects their behaviour to purchase green products [18].

Trust is a major factor in relationship building [19]. This study introduces the concept of "green purchase trust," which is defined as the willingness to rely on a product, service, or brand based on the perception of its credibility, benevolence, and environmental performance [20]. The literature mentioned that green trust positively affects consumers' willingness to buy [21]. It has also been found that customers display reluctance to trust certain products because some companies mislead and confuse consumers regarding green standards while exaggerating their products' environmental value [22].

Green Purchase Attitude refers to one's beliefs and feelings regarding acquiring environmentally friendly products and its impact on the environment [23–25]. Consumers with strong environmental attitudes are inclined to prioritize environmentally friendly purchases [26]. Understanding consumers' perspectives on environmental concerns and their attitudes toward eco-friendly products is crucial [27]. Sreen et al. highlighted that attitudes toward green purchases significantly influence purchase intentions and subsequent buying behavior [28]. However, some scholars argue that green attitudes may not strongly drive green purchasing behavior [29].

Perceived Behavioral Control is a psychological concept that refers to an individual's belief in their ability to control and engage in environmentally friendly purchasing actions. It is a vital element of the TPB, emphasizing that adults are more likely to engage in a behavior if they perceive they have control over their actions. Research suggested that individuals' green purchase behavior is significantly influenced by their perceived behavioral control and confidence in green products across all countries [30].

2.2 Hypotheses

In order to examine the factors affecting green purchasing among Malaysian working adults, the following seven hypotheses were raised:

H₁: Green Purchase Trust has a positive impact on Green Purchase Behavior among working adults in Malaysia.

H₂: Green Purchase Attitude has a positive impact on Green Purchase Behavior among working adults in Malaysia

H₃: Perceived Behavioral Control has a positive impact on Green Purchase Behavior among working adults in Malaysia.

H₄: Green Purchase Intention has a positive impact on Green Purchase Behavior among working adults in Malaysia.

H₅: Green Purchase Intention mediates Green Purchase Behavior and Green Purchase Trust among working adults in Malaysia.

H₆: Green Purchase Intention mediates Green Purchase Behavior and Green Purchase Attitude among working adults in Malaysia.

H₇: Green Purchase Intention mediates Green Purchase Behavior and Perceived Behavioral Control among working adults in Malaysia.

A theoretical model has been created and advanced using the Theory of Planned Behavior (TPB) to enhance comprehension (see Fig. 1).

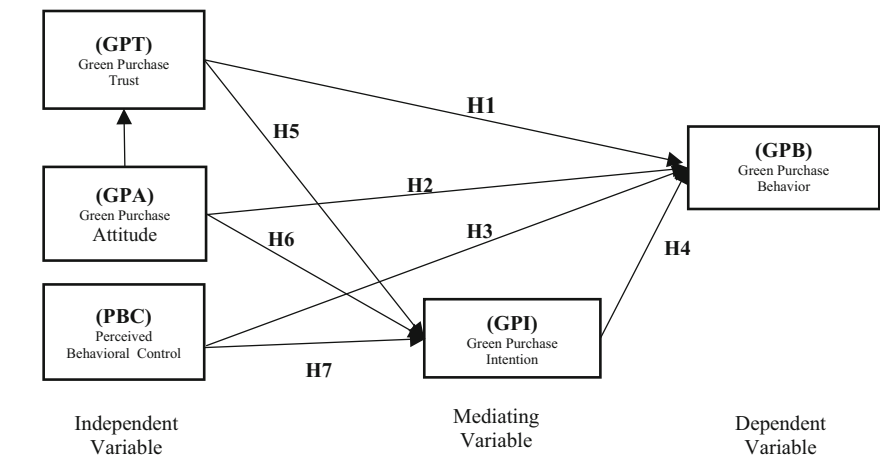


Fig. 1. Proposed Conceptual Framework

3 Research Methodology

The study's questionnaires were developed based on prior literature, utilizing a 7-point Likert scale ranging from disagree to agree. The questionnaire was structured into five sections to comprehensively analyze green purchase behavior: socio demographic variables, the Green Purchase Behavior Scale (9 items), Green Purchase Intention (5 items), Green Purchase Attitude (5 items), Green Purchase Trust (5 items), and Perceived Behavioral Control (3 items). This approach facilitated a thorough exploration of factors influencing green purchase behavior.

The study's sample comprised 330 selected adults, ensuring diverse representation. Participants, aged 18 and above, were currently employed in Malaysia, aligning with the study's focus on working adults. Convenience stratified sampling, specifically through an online questionnaire on Google, facilitated efficient data collection. This approach ensured a balanced representation of the target population, providing insights into the factors influencing green purchase behavior among working adults in Malaysia.

For data analysis, the researchers assessed the model's fit, data reliability, and validity, employing partial least squares regression to understand the interrelationships between data components and evaluate hypotheses based on the findings.

4 Data Analysis

Totalling 348 questionnaires, 330 valid questionnaires were returned for a valid response rate of 94.82%. We utilized Statistical Package for Social Science (SPSS) v.26.0 for conducting a descriptive statistical analysis of the demographic data. Additionally, Smart-PLS 4 was employed for a comprehensive examination of the statistical correlations among all the objective measurements pertaining to the constructs in this study (see Table 1).

4.1 Measurement Model Assessment

The reliability and validity of the data in this study was evaluated using composite reliability (CR) and average variance extracted (AVE) to assess the measurement model. The AVE's square root was found to be greater than the critical value of 0.50, and the outer loadings were greater than 0.70, indicating good validity of the data [31], as a result, some items have been deleted. The constructs' composite reliability and Cronbach alpha were also evaluated and found to be satisfactory, with all values greater than 0.70, as shown in Table 2. Additionally, the Variance Inflation Factor (VIF) value was less than 5, indicating that there were no collinearity issues in the data.

This study's Fornel-Larcker criterion is presented in Table 3, which indicates that the square root of the AVEs for each item has the highest value on its own and is greater than all of its inter-constructs. To achieve discriminant validity, the HTMT value should be within the confidence interval of -1 and 1 [32]. This study established discriminant validity, as all values were significantly different from 1 and greater than -1 , as shown in Table 4.

Table 1. Demographic Statistics

Demographic	Characteristics	Percentage (%)
Gender	Male	47
	Female	53
Age	19–23	21.2
	24–28	20.3
	29–32	11.8
	33 and Above	46.7
Education Level	high school	6.1
	Diploma	13.9
	Degree	50.6
	Master	16.4
	PhD/DBA	10.9
	others	2.1
Monthly Allowance	RM 1000 and below	9.1
	RM 1001–1500	9.1
	RM 1501–2000	10.0
	RM 2001–3000	2.1
	RM 3001–4000	16.7
	> RM 4000	40.6
	others	12.4
Nationality	Malaysian	79.7
	Non-Malaysian	20.3
TOTAL		100.0

Source: Authors' survey

4.2 Structural Model Assessment

The proposed hypotheses were evaluated, where Table 5 displays the results of the relationships among the constructs. The results show that four hypotheses were accepted and discovered to have significant effect toward green purchase behavior with the t -values were greater than 1.96 and p -values are higher than 0.05. The moderating effect (digital literacy), however, was rejected.

The coefficient of determination (R^2) of GPB and GPI were 0.433 and 0.474 respectively, where it is clear that predictive capability of the model has been formed, GPA, GRT and PBC explain 44.3% of the variation in GPB. Further, Q^2 values were examined using the blindfolding on SmartPLS, and the results indicate that the model has sufficient predictive relevance since the Q^2 values are greater than zero (see Table 6).

Table 2. Measurement Model Assessment

Construct	Items	Loading	VIF	CR	α	AVE	Rho_A
Green Purchase Behavior	GPB1	0.735	1.942	0.913	0.892	0.546	0.915
	GPB3	0.764	2.161				
	GPB4	0.774	2.184				
	GPB6	0.814	3.51				
	GPB7	0.705	1.904				
	GPB8	0.853	4.539				
	GPB9	0.853	3.046				
Green Purchase Intention	GPI1	0.902	2.515	0.953	0.938	0.802	0.94
	GPI2	0.901	2.645				
	GPI3	0.893	2.278				
Green Purchase Attitude	GPA1	0.929	3.496	0.967	0.957	0.855	0.958
	GPA3	0.914	2.623				
	GPA5	0.94	2.623				
Green Purchase Trust	GPT2	0.958	3.355	0.975	0.967	0.885	0.968
	GPT4	0.959	3.355				
Perceived Behavioral Control	PBC1	0.866	2.09	0.917	0.864	0.787	0.868
	PBC2	0.908	2.48				
	PBC3	0.886	2.209				

Notes: All measurement items with outer loadings lower than 0.70 were removed from the model, including GPB2,GPB5, GPI4, GPI5, GPA2, GPA4,GPT1, GPT3 and GPT5

Source: Authors' survey

Table 3. Fornel-Larcker Criterion

	GPA	GPB	GPI	GPT	PBC
GPA	0.928				
GPB	0.365	0.739			
GPI	0.647	0.606	0.899		
GPT	0.432	0.491	0.46	0.959	
PBC	0.282	0.199	0.338	0.294	0.887

Notes: The gray highlight on the Fornel-Larcker Criterion table indicates that the square root of the AVE has the highest value on itself and is low on other constructs

Source: Authors' survey

Table 4. Heterotrait-Monotrait Ratio

	GPA	GPB	GPI	GPT
GPA				
GPB	0.395			
GPI	0.718	0.666		
GPT	0.472	0.531	0.511	
PBC	0.319	0.229	0.387	0.33

Source: Authors' survey

Table 5. Hypotheses results

	Descriptions	β	<i>t</i> -values	<i>p</i> -value	Decision
H1	GPA -> GPB	-0.11	1.56	0.119	Not Supported
H2	GPI -> GPB	0.556	8.134	0.000***	Supported
H3	GPT -> GPB	0.296	4.664	0.000***	Supported
H4	PBC -> GPB	-0.044	0.806	0.420	Not Supported
H5	GPT -> GPI -> GPB	0.108	3.279	0.001	Supported
H6	GPA -> GPI -> GPB	0.292	6.389	0.000***	Supported
H7	PBC -> GPI -> GPB	0.074	2.596	0.004	Supported

Notes: ** $p < 0.05$; *** $p < 0.001$

Source: Authors' survey

Table 6. Predictive Relevance

Variables	R ²	Q ²
GPB	0.433	0.674
GPI	0.474	0.447

Source: Authors' survey

5 Conclusion and Discussion

Based on the data analysis, this study concludes that several factors influence green purchase behavior (GPB) among Malaysian working adults. Firstly, green purchase trust (GPT) has a positive effect on GPB, indicating that consumers are more likely to buy green products when they trust that companies are making genuine efforts to produce them. Secondly, this study found that GPI has a greater positive effect on GPB than GPT. However, this study also found that green purchase attitude (GPA) and perceived behavioral control (PBC) had negative effects on GPB, meaning that consumers who have a negative attitude towards green products or perceive it as difficult to purchase them are less likely to buy them. It is worth noting that other studies have suggested a

positive correlation between consumers' attitude and their willingness to pay more for green products [32], indicating a more complex relationship. Furthermore, this study found that GPI mediates the relationship between GPT, GPA, PBC, and GPB, meaning that increasing consumers' intention to purchase green products can improve their green behavior.

5.1 Implication of the Study

The study recommends that relevant departments should pay attention to consumers' GPA and PBC about environmentally conscious purchases because these factors will influence their actions towards green purchases behavior. To promote a positive image of green products, it is important to raise customers' awareness of green products and their benefits. This can be achieved through environmental protection propaganda, the output of user value, or recommendations from friends to use green products, which will increase GPT in the long run and enhance GPB. In conclusion, this study suggests that Malaysian working adults are cognizant of environmental issues, and the results of this study can provide a reference for relevant authorities to promote green purchase behavior among consumers. However, further research is needed to explore the complex relationship between consumers' attitudes and their willingness to pay for green products.

5.2 Limitations and Recommendations for Further Research

The main manifestation is that only the relationship between the influence of each factor on behavioural behaviour is analysed, without a specific analysis of the weight of each influencing factor. A variety of external and internal elements can influence green purchase behaviour. In this study, the individual characteristics of users were not incorporated into the purchase behaviour model. We hope that future analysis can enhance the research model from a holistic perspective. Respondents' personal characteristics can act as moderating variables. Researchers can also examine green purchase intentions from the perspective of perceived benefits, costs, and other factors. This may improve the model's explanatory power.

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A Methodological and Comparative Analysis of a Financial Inclusion Index of Guangxi, China

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Abstract. This paper endeavors to investigate the factors influencing the measurement of financial inclusion extent. It focuses on creating a comprehensive index to assess the impact of multi-dimensional variables, with specific reference to Guangxi, China. The financial inclusion index, along with its sub-indices, encompassing permeability (IFI1), availability (IFI2), and utility (IFI3) of financial services, were computed using the coefficient of variation and Euclidean distance methodologies. The coefficient of variation was employed to determine the weight of each indicator, denoted as W_i which represents the relative importance of each indicator in the overall assessment of financial inclusion. When considering multiple dimensions (n dimensions), these weights are used to compute values in an n -dimensional space, allowing for a comprehensive evaluation of financial inclusion within a region using a principal components approach. Highlighting significant disparities in financial inclusion among different regions in Guangxi, its IFI1 recorded a mean of 0.132 bounded by a minimum of 0.032 and a maximum of 0.549. While IFI2 recorded an average value of 0.092 comprising per capita deposit balance and loan balance of financial institutions. IFI3, which relates to the end of year percentage of deposit balance in GDP and of loan balance in GDP, has an average value of 0.089. Across all three dimensions, there is a notable disparity between the minimum and maximum values, signifying an imbalanced distribution of financial resources and services. Among these three dimensions, IFI2 exhibits a higher standard deviation, suggesting marked variations in balances between deposit and loan, emphasizing the need to adjust lending thresholds to meet the diverse demands in the financial market.

Keywords: Financial Inclusion index · coefficient of variation · Euclidean distance space · dimension

1 Introduction

The challenge of establishing an inclusive financial system that enhances financial inclusion has garnered significant attention and research interest from the global research academia. The advent of mobile phones and the internet has opened up new avenues for delivering financial services. Even basic, text-based mobile phones have enabled the use of mobile money accounts, while smartphones have provided a convenient means for

individuals to conduct transactions through their financial institution accounts. However, people's ability to utilize digital financial services of this kind hinges on their access to the requisite technology.

Based on data from the 2017 Gallup World Poll, 93% of adults in high-income economies possess their own mobile phones, with 79% doing so in developing economies. In India, 69% of adults own mobile phones, compared to 85% in Brazil and 93% in China. Notably, women are less likely than men to own mobile phones, with 84% of men and 74% of women in developing economies having access to mobile phones, indicating a gender gap of 10% points.

Jiao Jinpu (2006) was the first to introduce the concept of financial inclusion to China, emphasizing the importance of affording all groups, particularly those with lower incomes, the opportunity to access and utilize financial services. Guangxi (one of five ethnic autonomous regions), located in the southern part of China is unique. Distinguished by its rich ethnic diversity, it stands out by having the largest population of ethnic minorities in China. Since the initiation of economic reforms and the policy of opening up to the world, Guangxi has witnessed a notable surge in the income levels of its residents, marking a period of substantial economic growth and development. The urban-rural income gap has reduced to 2.69 times from RMB 11,325 to RM 30,502 in 2017.

Given this context, this study aims to develop a financial inclusion index to evaluate the urban rural income gap as well as the gap between autonomous and non-autonomous counties in Guangxi province.

This paper addresses the following research questions:

RQ1: What are the methodological considerations involved in computing a Financial Inclusion Index?

RQ2: How can financial inclusion indices, categorized into permeability, accessibility, and utility, be computed for the period from 2010 to 2016 for the 79 counties in Guangxi province?

Literature Review

There are approximately three main approaches to determine the degree of financial inclusion: evaluating access to banking/financial services, measuring levels of financial exclusion, and determining degrees of financial inclusion. Initially, Beck et al. (2005) introduced the concept of using accessibility to financial services as a metric to gauge financial inclusion, primarily focusing on the provision of financial services. Furthermore, Beck et al. (2007) proposed a comprehensive set of eight indicators to measure the advancement of inclusive finance. These indicators encompass metrics such as the number of financial institutions per 10,000 individuals, the density of financial outlets per 100 square kilometers, ATM density per 10,000 people, ATM density per 100 square kilometers, per capita savings in relation to per capita GDP, per capita loans in relation to per capita GDP, the number of savings accounts per 1,000 individuals, and the number of loan accounts per 1,000 individuals.

After conducting a thorough analysis of factors such as family size, residents' age, and educational attainment in relation to financial exclusion, the findings of researchers like Guiso (2008), Gardener et al. (2004) and Ameriks & Zeldes (2000) are that household

income, wealth, and cognitive capabilities will have an impact on financial exclusion. As a result, many scholars opt to indirectly quantify the level of financial inclusion by assessing the extent of financial exclusion, computing the level of financial inclusion as 1 minus the degree of financial exclusion. At present, both domestic and international researchers, exemplified by Gao Peixing & Wang Xiuhua (2011) and Li Chunxiao & Jia Jinrong (2012), commonly utilize the six-dimensional indices introduced by Kempson & Whyley (1999). These dimensions encompass geographical exclusion, assessment exclusion, conditional exclusion, pricing exclusion, marketing exclusion, and self-exclusion. This preference arises from the comprehensive nature of the data derived from this approach and its ease of data collection.

Anne Stuhldreher (2005) argues that possessing a bank account holds significant importance for low-income families as it grants them access to the formal financial market, enabling them to become owners of financial assets. Sarma (2008) introduced the concept of the Inclusive Finance Index (IFI) and innovatively created a measurement index for financial inclusion, considering aspects like geographic accessibility, usability, and product engagement. Additionally, Wang Xiuhua & Guan Jian (2014) developed a comprehensive set of 14 indicators spanning three dimensions: accessibility, usability, and affordability. They applied Sarma's methodology to evaluate the financial inclusion status of 87 counties in Hunan. Li Jianjun and Lu Panpan (2016) designed an inclusive index for resident financial services encompassing the banking, securities, and insurance sectors. They utilized spatial autocorrelation analysis theory and methods on panel data spanning from 2005 to 2013 across 31 provinces and cities. Furthermore, Xin Liqiu et al. (2017) conducted a case study of Suihua, Heilongjiang province, an agricultural city, to assess the financial inclusiveness of all counties (cities) in the area. Their evaluation employed the IFI model, focusing on financial service breadth and depth as the two main dimensions. The results indicated a generally low level of financial inclusiveness across these counties (cities) in Suihua, highlighting regional disparities. Consequently, they proposed countermeasures and recommendations to enhance the financial inclusion level in these areas.

2 Research Methodology

2.1 Index Selection

The Inclusive Finance Index (IFI) in this study is calculated using the coefficient of variation method and the Euclidean distance method. It is based on nine indicators across three dimensions, covering data from 79 counties spanning from 2010 to 2017.

2.2 Inclusive Finance Index (IFI) Indicators

In this study, indicators are designed from three dimensions: permeability of financial services, availability of financial services, and utility of financial services in the banking industry, insurance industry, and securities industry.

Permeability of financial services assesses the ease of acquiring financial services in a region, considering both the availability of financial services and geographic penetration.

Nine indicators, including the number of financial institutions per 10,000 people, per 100 square kilometers, and the number of financial staff per 10,000 people, are chosen from the banking industry. The insurance industry is evaluated using metrics like the rate of participation in basic pension insurance, medical insurance, and unemployment insurance. The securities industry considers the number of per capita accounts in the stock market and the number of domestic listed companies in the region.

Availability of financial services measures per capita deposit and per capita loan balances of financial institutions. This dimension includes per capita deposit balance and per capita loan balance in the financial industry (banking, insurance density, insurance, volume of stock transactions in securities industry).

Utility of financial services is determined by the demand for financial services, incorporating the ratio of deposit balance to local GDP and the ratio of loan balance to local GDP in the banking industry. The insurance industry considers the depth of insurance (premium income to local GDP), while the securities industry evaluates the sum of stock market activity relative to local GDP.

2.3 Indicator Calculation Method

Data Standardization: The study employs data standardization to make the actual values dimensionless, eliminating errors arising from different units of measurement. The formula used is $d_i = (A_i - M_{\min}) / (M_{\max} - M_{\min})$, where A_i represents the actual data value of each indicator, M_{\min} is the minimum value of each indicator, and M_{\max} is the maximum value of each indicator. The resulting d_i values range from 0 to 1, with larger values indicating better performance in their respective dimensions.

Weight Determination (Coefficient of Variation Method): To account for the different contributions of each indicator to the financial inclusion outcome, the coefficient of variation method is used to calculate the average value (X) and standard deviation (σ) of each indicator. The variable coefficient V_i is determined as σ / X_i , and the weights (W_i) for each indicator are calculated as the proportion of the variable coefficient of each indicator to the sum of all coefficients.

Determining Specific Indicator Values for Each Dimension: The specific indicator value for each dimension is computed as the product of the dimensionless indicator data and its weight, denoted as $K_i = W_i * d_i$.

Using the Euclidean Distance Method: When dealing with n dimensions, n -dimensional values can be calculated. The degree of financial inclusion in a region is expressed as a point formed by the indicators of each dimension in n -dimensional space. The financial inclusion index is calculated as 1 minus the normalized Euclidean distance between the region's point (D_i) and the ideal point of complete financial inclusion (I).

The formula used is $IFI = 1 - \frac{\sqrt{(W_1 - K_1)^2 + (W_2 - K_2)^2 + (W_3 - K_3)^2 + (W_4 - K_4)^2}}{\sqrt{W_1^2 + W_2^2 + W_3^2 + W_4^2}}$.

2.4 Sample Frame

The study focuses on Guangxi, which consists of 111 county-level administrative regions, including 40 municipal districts, 7 county-level cities, 52 counties, and 12

autonomous counties. It analyzes county-level data to understand financial inclusion in minority areas within Guangxi. Data from 2010 to 2016 is utilized for analysis, with 79 counties' data considered after excluding invalid values.

2.5 Sources of Data

The financial inclusion analysis involved collecting scores for various indicators related to financial distribution across 79 county-level administrative regions in Guangxi. These indicators were used to calculate the mean, standard deviation, and weights for the period spanning from 2010 to 2016. The scores were sourced from reliable published secondary sources, including the Guangxi Statistical Yearbook, Almanac of China's Finance and Banking, Guangxi Banking Regulatory Commission, and Guangxi Financial Running Report. These sources provided essential data for a comprehensive and accurate assessment of financial inclusion across the specified regions during the mentioned timeframe.

2.6 Computation and Analysis of Financial Inclusion Index

The analysis of various financial inclusion indicators in Guangxi province from 2010 to 2016 provides several noteworthy findings:

Number of Financial Institutions per 10,000 People: The mean number of financial institutions per 10,000 people increased over time, from 0.828 in 2010 to 1.019 in 2016. This growth indicates an expansion in the geographical coverage of financial institutions. However, it's essential to note that the weight of this indicator decreased from 0.114 in 2010 to 0.104 in 2016, suggesting that its contribution to overall financial inclusion declined. This decrease in weight may be due to other indicators gaining importance in assessing financial inclusion.

Number of Financial Institutions per 100 Square Kilometers: The mean number of financial institutions per 100 square kilometers also increased, rising from 1.647 in 2010 to 1.991 in 2016. However, this increase did not lead to a more balanced distribution of financial resources among regions. The regional disparities remained significant, with some areas having only a few financial institutions, while others, like municipal districts, had many. The standard deviation increased over time, indicating growing fluctuations in the supply of financial resources between regions. This highlights the need for efforts to balance the geographical penetration of financial services.

Insurance Participation Rates: The participation rates for basic pension insurance, medical insurance, and unemployment insurance exhibited a consistent upward trend. These insurance programs play a crucial role in providing economic security, particularly for low-income individuals, the unemployed, and disabled persons. However, there were substantial inter-regional differences in these participation rates. In 2016, the maximum participation rate for basic pension insurance was 4.5 times higher than the minimum, indicating significant regional disparities in access to social welfare services. Similar disparities were observed in medical and unemployment insurance participation rates, emphasizing the need for more balanced and harmonious social welfare policy development.

Per Capita Deposit and Loan Balances: Both per capita deposit balance and per capita loan balance of financial institutions increased over the years, suggesting improved access to financial services. These two indicators carried significant weights, with their importance increasing in 2016. This reflects their crucial role in measuring financial inclusion. However, it's worth noting that per capita loan balances remained relatively lower compared to deposit balances, indicating potential challenges for residents in accessing loans from financial institutions.

Contribution to GDP: The contribution of deposits to GDP in Guangxi gradually increased, indicating the growing role of finance in stimulating the economy. In contrast, the contribution of loan balances to GDP remained relatively inadequate, despite some growth. This suggests that while financial institutions were attracting more deposits, lending to residents remained challenging.

Longitudinal Analysis: Over time, there were varying degrees of improvement in the maximum and mean values of the nine financial inclusion indicators. However, the standard deviation increased, indicating a more unbalanced distribution of financial resources among regions. The weights of each indicator also showed different tendencies, with per capita loan balance of financial institutions taking a leading role in contributing to inclusive financial development in 2016. This suggests that policies and measures related to loans and credit access played a significant role in promoting financial inclusion during that period.

In summary, the analysis highlights both progress and challenges in achieving financial inclusion in Guangxi province. While there was an expansion in financial institutions and improved participation in insurance programs, significant regional disparities persisted, and access to loans remained a concern. Balancing geographical penetration and addressing disparities in financial services are essential for enhancing financial inclusion in the region.

3 Data Analysis

3.1 Results of Financial Inclusion Index of 79 Counties from 2010 to 2016

The results of the financial inclusion index for the 79 counties in Guangxi province from 2010 to 2016 are summarized as follows:

Classification of Financial Inclusion: The study employs a classification method based on Sarma (2010), where different ranges of the Inclusive Financial Index (IFI) correspond to different levels of financial inclusion. Specifically, $0 \leq IFI \leq 0.3$ represents low financial inclusion, $0.3 \leq IFI \leq 0.5$ signifies medium financial inclusion, and $0.5 \leq IFI \leq 1$ denotes high financial inclusion. In Guangxi province, the majority of counties were classified as having low financial inclusion. The mean value of the financial inclusion index over the seven-year period was calculated to be 0.132. Only one county out of the 79 reached an IFI of 0.3, indicating a medium level of financial inclusion. This county represented just 1.3% of the total 79 counties. For the rest of the counties, their financial inclusion index was even below 0.1, emphasizing a significant lack of financial inclusion.

Wide Regional Disparities: The financial inclusion index exhibited substantial variations among the counties in Guangxi. The index ranged from a minimum of 0.032 to a maximum of 0.549, highlighting considerable disparities in financial inclusion between different regions within the province. These disparities were also evident across the three dimensions of the index, which indicates that regions with lower financial inclusion faced challenges in terms of both permeability, availability, and utility of financial services.

The dimensional analysis of the Inclusive Financial Index (IFI) for Guangxi province from 2010 to 2016 provides valuable insights into the state of financial inclusion in the region:

IFI1 (Permeability of Financial Services): This dimension, which assesses the ease of acquiring financial services in a region, appeared to be relatively better than the other dimensions, with an average value of 0.203. This suggests that in terms of accessibility to financial services, including the number of financial institutions and participation rates in insurance programs, Guangxi had a relatively higher level of financial inclusion.

IFI2 (Availability of Financial Services): The dimension related to per capita deposit balance and per capita loan balance of financial institutions had an average value of 0.092, indicating that the availability of financial services in terms of deposit and loan balances was relatively lower compared to the other dimensions. This suggests that while access to financial institutions may be relatively convenient (as indicated by IFI1), the availability of financial products and services, such as loans and deposits, was more limited.

IFI3 (Utility of Financial Services): This dimension, which examines the utilization of financial services by residents, including the percentage of deposit balance and loan balance in GDP, had an average value of 0.089. This implies that the utilization of financial services, as reflected in these indicators, was also relatively low. It indicates that residents in Guangxi may not be fully leveraging financial services to support economic activities.

Additionally, the unbalanced financial distribution across all three dimensions highlights the disparities in the distribution of financial resources and services within Guangxi. The greater standard variation in IFI2 suggests significant disparities between deposit balance and loan balance, which may require policy adjustments to address.

Overall, the study emphasizes the challenges faced in achieving a high level of financial inclusion in Guangxi province, with most counties falling into the low financial inclusion category. To address these disparities and improve financial inclusion in the region, targeted policy interventions and initiatives may be necessary, particularly in terms of enhancing the availability and utilization of financial services. The financial inclusion index from 2010 to 2016 in Guangxi province is shown in Table 1.

Table 1. Descriptive analysis of financial inclusion index from 2010 to 2016 in Guangxi province

	N	Min	Max	Mean	SD
IFI	553	0.032	0.549	0.132	0.06
IFI1	553	0.026	0.568	0.203	0.07
IFI2	553	0	0.814	0.092	0.081
IFI3	553	0.004	0.648	0.089	0.066
2010	79	0.05	0.239	0.099	0.037
2011	79	0.065	0.278	0.109	0.044
2012	79	0.073	0.341	0.119	0.046
2013	79	0.032	0.549	0.15	0.084
2014	79	0.08	0.385	0.14	0.054
2015	79	0.056	0.404	0.15	0.061
2016	79	0.089	0.418	0.157	0.059
Effective N	79				

4 Conclusion and Discussion

Indeed, the calculation of the Inclusive Financial Index (IFI) using multiple dimensions provides valuable insights into the state of financial inclusion in Guangxi province despite limitations in availability of data. Figure 1 represents the trend of the Financial Inclusion Index and the Components in Guangxi China. The findings highlight the following key points:

Low Financial Inclusion Levels: The majority of counties in Guangxi fall into the low category of financial inclusion, as indicated by the average IFI of 0.132. This suggests that there is a significant gap in access to and utilization of financial services in these regions.

Wide Regional Disparities: The wide range of IFI values, from 0.032 to 0.549, reflects substantial disparities in financial inclusion across different counties within Guangxi. Some counties may have better access to financial services and higher utilization, while others face significant barriers to financial inclusion.

Policy Implications: The results underscore the need for targeted policy interventions to address these disparities and improve financial inclusion in less-included regions. Such policies may include measures to enhance the accessibility and availability of financial services, as well as initiatives to promote the utilization of financial products and services among residents. **Further Research:** The study opens the door for further research and analysis to explore the specific factors contributing to the disparities in financial inclusion and to develop tailored strategies for improvement.

Overall, the IFI provides a useful tool for assessing and monitoring financial inclusion at the regional level, helping policymakers and researchers identify areas where interventions are needed to promote inclusive financial development.

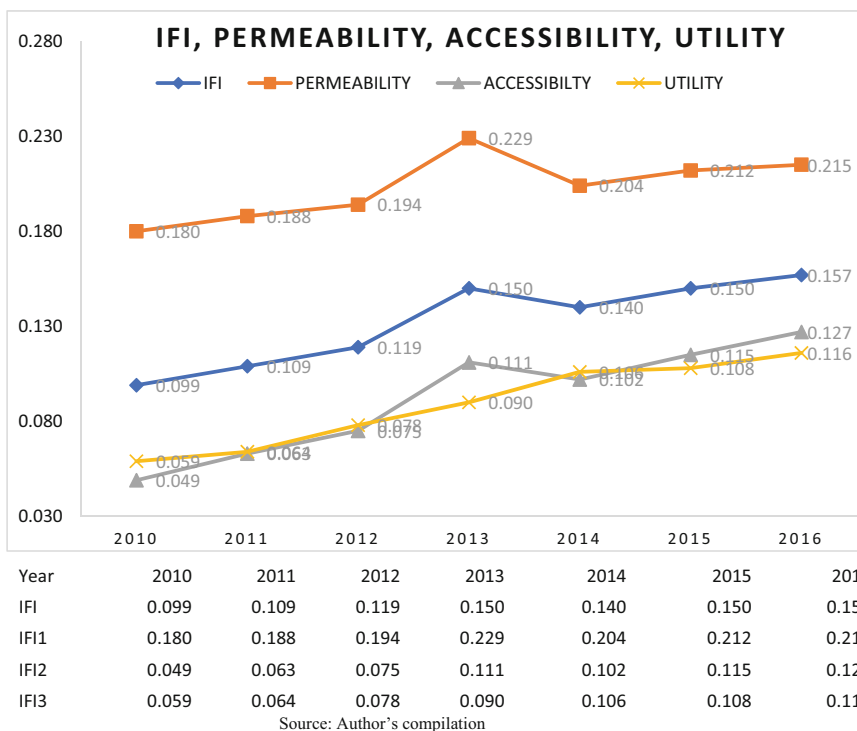


Fig. 1. Financial Inclusion Index and their Components in Guangxi China

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Informational Support for Communication of Reinvestment Recovery of the Economy

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Abstract. The economic recovery program determines the vectors for mobilizing domestic reinvestment potential. It is aimed at promoting dialogue between the public and private sectors, involving interested parties, providing technical assistance for the implementation of large-scale reforms, and protecting the interests of international donors, companies, local and industry associations. Financing is the attraction of money for further investments, investment is the placement of already accumulated money, and reinvestment is an additional investment at the expense of income received from previous investments into the economy. The advantage of reinvestment is the possibility of concentrating investments on the restoration, modernization, or greening of one object.

The recovery of economies after wars and military conflicts must take into account the requirements of international regulators and crisis cycles. In Ukraine, the model of economic recovery and development requires the implementation of the nineteen structural beacons of the cooperation program with the IMF. In the conditions of crisis phenomena (martial law), increasing responsibility and trust between the state, local self-government, and citizens takes place by concluding a social contract.

The state should apply a parametric approach, that is, determine the policy, general framework, and requirements. The effectiveness of reinvestment depends on the development of an algorithm for the distribution of general funding between sectors of the economy and strategic recovery programs. In 2023, the Government identified support for the economy, critical and social infrastructure, housing, energy, as well as humanitarian demining as priority areas of transformation.

Keywords: recovery · information support · reinvestment · communication · security

1 Formulation of the Problem

The formation of internal reinvestment potential should begin with the activation of the construction industry, in particular housing construction, reconstruction, and repairs. In Ukraine, high rates of housing owned by citizens were achieved in the process of privatization of the state housing stock. The restoration of destroyed housing in the conditions of military conflicts has its own characteristics: the security of territories, the design of bomb shelters in residential buildings, and the creation of public security centers. Also, in the process of restoration and reconstruction of destroyed housing, it is necessary to take into account the costs of ensuring energy efficiency and the use of green technologies.

The change in security coordinates requires the development of new infrastructure during the reconstruction and expansion of social infrastructure under martial law. Affected citizens and internally displaced persons need public assistance in solving housing problems. The content of the contract for the construction of social housing (affordable housing) is the result of the interaction of creditors, borrowers, and the state. The process of implementation of the housing contract is dynamic, taking place in the conditions of martial law in the presence of many uncertain factors, in particular, a decrease in business activity.

Risks and dangers of wartime can arise not only as a result of military operations but also during radiation or chemical danger, and ecocide. Therefore, the use of force majeure clauses is not always an argument for non-compliance with obligations during the reconstruction or commissioning of housing. The majority of internally displaced persons and refugees expect the development of a fundamentally new housing policy to overcome the fragmentation of the real estate market.

2 Literature Review and Methodology

The vector of scientific research on the mobilization of domestic reinvestment potential is based on the adopted Recovery and Development Plan presented at the International Conference in Lugano. The framework document approved the following recovery principles: partnership; focus on reforms; transparency, accountability, rule of law; democratic participation; involvement of many stakeholders; gender equality and inclusion; and sustainability (Shmyhal' D. 2023). Together with the World Bank, ten key dimensions of Ukraine's recovery have been identified: the state is changing, sources of recovery funding, recovery stages, priorities for rapid recovery, damage assessment, transparency, parametric approach, recovery architecture, regional approach, and involvement of the private sector.

In modern economic literature, studies of various confrontations confirm the occurrence of a recession, and therefore the use of the New Keynesian DSGE model minimizes the impact of uncertainty on the state of the real economy (Belianska A. 2023). Tracking new types of conflicts, local armed conflict and consequences confirms their destructive impact on the economies of countries focused on the peaceful consumption market, and the need to adapt economies to the needs of the military economy (Verkhovod L. 2020). Recessions can cause information asymmetry, and high levels of stress, leading to serious financial crises, shift business cycles, and reinvestment (Bernanke Ben S. 2023).

Military conflicts activate new trends of globalization and localization and increase economic and social inequality, therefore economic recovery requires the development and implementation of a strategy of national rooted development and reinvestment (Zvieriakov M. 2022; Hrytsenko A. 2023). In the post-war conditions, the reconstruction of development should contribute to the reinvestment of money to support the social quality of life, focused on human development, social capital, the ecological and physical safety of citizens, the availability of quality housing (Heiets' V. 2023). Study of the economic feasibility and financial efficiency of using the funds of centralized and decentralized state funds should contribute to the social balance in society (Krysovatyj A. 2023). These studies generalize the approach that recovery and development of post-war economies are possible only on a strong security foundation.

Reconstruction of destroyed (damaged) social infrastructure (property, housing) as a result of military actions requires significant investment and reinvestment, return, and involvement of internally displaced persons in economic processes. Analysis of ways to achieve transparency of economic agents of reconstruction is investigated through the correlation between competition and economic recovery (Samokhods'kyj I. 2022). In the process of restoring destroyed housing, it is necessary to take into account research on quantitative models of cities and modeling of uneven distribution of business activity across cities, differences in transport infrastructure, ecology, and agglomeration (Redding S. J. 2023). When choosing mechanisms and sources of housing financing during the recovery period, many specific factors must be taken into account. Investment attraction and scalability are affected by market imperfections, which cause overinvestment in upside risks and underinvestment in downside risks (Elias A., Hellwig C., and Tsyvinski A. 2023).

Decision-making theories and mathematical models of mortgages are used to study the stages of modeling various types of housing. The application of an empirical-deductive model to estimate the mortgage credit value of real estate makes it possible to optimize credit risks (Tajani F., and Morano P. 2018). For short-term forecasting, the impact of credit instruments on the development of the housing market and the relationship between the basic instruments of the financial market are being investigated (Prokopenko V. Yu, 2015; Studins'ka H. Ya., Prosov V. M. 2021).

The methodology should provide access to the mobilization of the internal reinvestment potential of state regulators, businesses, and citizens, therefore information technologies provide open access to an integrated database platform and the ability to forecast all types of resources available for housing restoration.

3 Methodology

The research methodology is based on a dialectical understanding of communications between the recovery of the economy and the mobilization of internal reinvestment potential within the framework of a systemic approach aimed at identifying a holistic mechanism of information support for the communication of reinvestment recovery of the economy.

The article uses general scientific and special methods, in particular, theoretical generalization, scientific abstraction, analogy, brainstorming, inversion - to form a conceptual and categorical research apparatus; intuitive and logical – to determine the typology

of relationships and interdependence of information technologies, internal reinvestment potential and construction of social housing; structural and functional - to determine the role of public finances in the social housing construction system; observation and comparison, analysis and synthesis – to outline the pragmatic features of mobilizing internal reinvestment potential; formalization - to determine trends in the creation and functioning of a mortgage consortium.

The research methodology of informational support of the communicativeness of reinvestment recovery of the economy is based on the algorithmization of financial, social, technical, and environmental dimensions (Table 1).

Table 1. Methodical approaches of information support of communication reinvestment recovery of the economy

	Communications	Activities	Prospects
1	Financial dimension	<ul style="list-style-type: none"> - financing of the program of reinvestment of the economy - ensuring the rhythmicity of investment inflows - restraining emission financing of the budget - financing of preventive measures to prevent risks - revitalization of the domestic financial market 	It will contribute to the stabilization of economic activity in the country
2	Social dimension	<ul style="list-style-type: none"> - socialization of labor potential - stimulation of the economically active population - response to the trends of the cost of living crisis - regulation of marginal criteria of demographic load - construction of social housing 	It will guarantee comprehensive support for low-income segments of the population, those unable to work
3	Labor dimension	<ul style="list-style-type: none"> - guaranteeing the safety of regions and communities - creation of new jobs - application of various financial (social, housing) incentives for the return of refugees - production of compliance of skills and knowledge of employees with the requirements of reconstruction 	It will reduce labor migration; will stimulate the return of refugees, creation of jobs for reconstruction

(continued)

Table 1. (continued)

	Communications	Activities	Prospects
4	Ecological dimension	<ul style="list-style-type: none"> - monitoring, analysis, and assessment of environmental indicators in the context of implementation of the 75th EU Directive - implementation of programs for the ecological direction of recovery - taking into account guidelines on available technologies in the process of issuing licenses (permits) for conducting activities - training of specialists, including environmental engineers - legislative support for the introduction of an environmental tax, which is charged for the disposal of waste - development of ecological culture for the sake of a clean and green Planet 	Overcoming the environmental crisis as a result of military actions, reducing environmental risks, ensuring the implementation of the principles of the Sustainable Development Goals for the recovery of the economy
5	Technical dimension	<ul style="list-style-type: none"> - informatization systematizes reinvestment processes and makes it possible to standardize them to international standards - implementation of the best available technologies and methods of information support and communications - information support of man-made accidents that occur as a result of military actions 	Formation of the information infrastructure of economic recovery as a component of the global information space

Since the subject of our research is the reinvestment recovery of the economy and its trigger is construction, informational support for improving living conditions, the development of non-profit housing rental, and prevention of speculative investment are relevant in the conditions of the global cost of living crisis.

To determine the trends in the development of the social housing segment (affordable housing) and the conclusion of housing contracts, it is advisable to use general methods of decision-making theory, and operations research, namely, the creation of mathematical models of mortgages and their research with simulation models or the solution of optimization problems.

4 Research Results

The main indicator of the country's economic development is GDP. If we analyze the dynamics of this indicator in Ukraine, we can state that it significantly decreased during the period of martial law (Fig. 1). The dynamics of GDP income is one of the factors of real estate valuation. Even though prices for residential real estate under martial law remained unchanged (Fig. 1), it is necessary to emphasize the fact that the issue of building affordable social housing, taking into account the experience and standards of European countries, became more relevant.

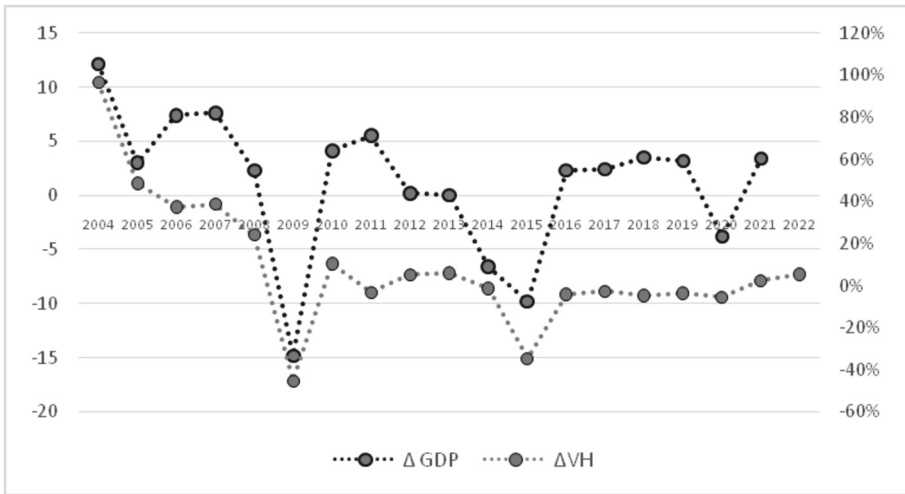


Fig. 1. Fluctuations in GDP and the price of 1 square meter of real estate in 2003–2022

Activation of the process of construction of affordable social housing requires new approaches to the management of equity capital. Equity management in the field of social housing means the effective use of financial resources of shareholders or investors for the construction, maintenance, and development of housing facilities that are provided to citizens at affordable prices or reduced tariffs. This may include the following stages and functions: 1) attracting investments (attracting the necessary financial resources from shareholders or investors to finance projects for the construction and reconstruction of social housing); 2) financial planning (development of financial plans to ensure the stability and profitability of social housing projects; risk management (analysis and management of risks associated with investments in social housing, including risks of tenant debt, changes in legislation and martial law); project development (selection and implementation of projects for the construction and development of social housing that meet the needs and capabilities of shareholders); ensuring affordability (ensuring that social housing is accessible to residents and meets their financial capabilities).

In general, equity capital management in the social housing sector is an important aspect of meeting the housing needs of the population and achieving a sustainable economic effect for investors.

In today's wartime conditions, we observe a disappointing trend demonstrated by the companies' own capital, which is designed to secure long-term projects, contribute to the protection of creditors' rights, compensate for permanent losses, and finance risky investment projects (Fig. 2).

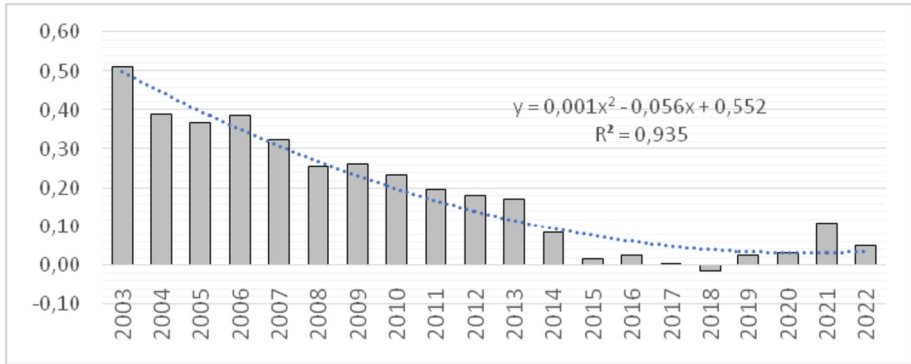


Fig. 2. Fluctuations in Shareholders' Equity ratio in 2003–2022

The ratio of long-term debt and equity to the total amount of assets is an important indicator of financial stability and ensuring the creditworthiness of companies. This ratio can fluctuate due to various factors and has important consequences for the financial management of the company. Here are some possible causes and consequences of fluctuations in this ratio:

- changes in investment plans (if the company plans to expand or modernize its activities, this may lead to an increase in long-term debt to finance these projects and a change in the ratio);
- dividend policy (the decision to pay dividends to shareholders can affect the amount of equity. Large dividend payments can reduce equity and increase the debt-to-asset ratio);
- changes in the financial strategy (the company may decide to revise its financial strategy, including loans or attracting additional capital, which affects the level of debt and equity);
- debt repayment (regular repayment of long-term debt can lead to a reduction in debt and an increase in equity, which has a positive effect on the ratio);
- effective asset management (growing the company's assets without increasing debt or equity can improve this ratio).

In practice, the optimal ratio of debt and equity capital depends on the specific conditions and purpose of the company. It is important to ensure a balance between the use of external financing and maintaining financial sustainability to prevent excessive risk or under-financing.

The ratio of long-term debt and equity to the total amount of assets is an important indicator of the financial stability and creditworthiness of the company, including the sphere of social housing. Managing this ratio is important to ensure the financial stability

and affordability of social housing for residents, as it affects the company’s ability to meet the housing needs of the community and maintain its long-term financial sustainability.

As we can see from Fig. 3, in recent years the dynamics of this indicator has a downward trend.

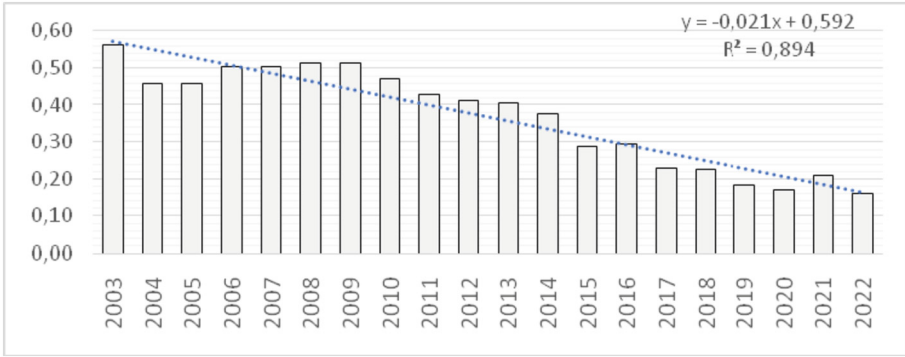


Fig. 3. Fluctuations in Long-term Debt and Equity to Total Assets Ratio in 2003–2022

An important stage of our research is the monitoring of the return on equity capital, which contributes to the adoption of management decisions, the identification of problem areas, and the improvement of the financial strategy.

As can be seen from Fig. 4, sharp fluctuations of this indicator were observed in Ukraine during 2003–2022.

Monitoring the profitability of equity capital plays an important role in the context of economic recovery, especially in the field of affordable social housing construction. Tracking return on equity allows companies and investors to evaluate the effectiveness of investing resources in housing projects and ensure sustainable infrastructure growth and access to housing for the community, which contributes to economic recovery and social development.

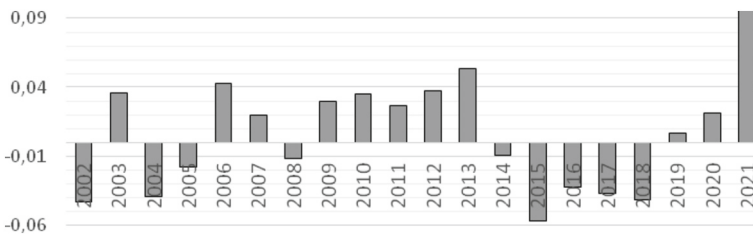


Fig. 4. Allocation of the cyclic component for Shareholders Equity ratio

In the conditions of modern challenges, it is important to determine the level of resources involved, which Ukrainian companies use to finance their economic activities. As we can see from Fig. 5, this indicator has been growing in recent years.

Borrowed resources that companies use to finance their business activities include the funds they receive through various sources such as equity, loans, share issuance, etc. These resources are a key factor in economic recovery, as companies with sufficient financial resources can actively invest in social development. The infrastructural and technological improvements that occur thanks to these resources contribute to the improvement of the quality and affordability of housing, which in turn has a positive effect on the recovery of the economy and the improvement of the quality of life of the population.

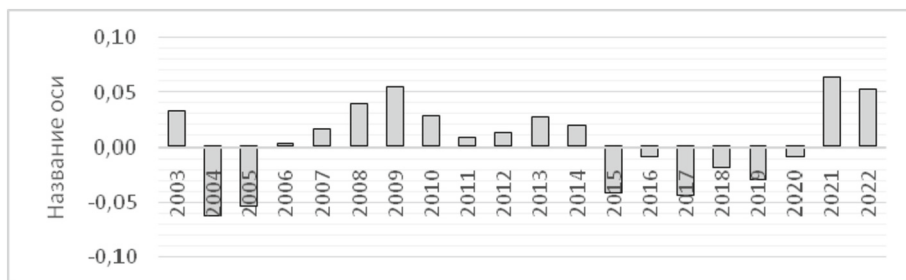


Fig. 5. Allocation of the cyclic component for Long-term Debt and Equity to Total Assets Ratio

The implementers of the project “Economic Hub: Effective Public Finance Management Policy and Vision of Growth” (UK Aid) for the communication of reinvestment recovery of the economy determine the principles of financial incentives for attracting international donor funds and grants. EBRD, as an institutional investor, implements the “Architecture of Reforms in Ukraine” program, as it is interested in participating in post-war reconstruction and reinvestment. With the participation of the EBRD, accumulated donor funds are directed to the restoration of infrastructure, in particular, in 2022 - 116.1 million Euros. The EBRD gives priority to borrowers who have a positive credit history, can make joint investments, and manage risks. In the market economy, mortgage consortia are the most effective participants in the implementation of social projects that require optimization of measures to prevent loss of benefits.

Consider the general dynamic model of the flow of financial processes in the conditions of the functioning of several mortgage borrowers (mortgage consortium). The parameters of this model are the financial assets and liabilities of the mortgage consortium, which are formed from the financial assets and liabilities of its participants. It is assumed that the mortgage consortium can obtain external loans and place temporarily free financial resources on external deposits in the bank. Several scenarios are assumed in the model, namely: changes in housing prices, entry and exit of members from the mortgage consortium, changes in terms and amounts of payments, and types of housing. Several restrictions are introduced in the model: only short-term, one-step models, external deposits, and mortgage loans are considered; the scenario of the influx of new customers is fixed; the possibility of early withdrawal or replenishment is not foreseen for internal financial resources; the possibility of early repayment of the domestic mortgage loan is not provided. Management in this model comes down to choosing internal rates on deposits and loans.

To formalize the process of functioning of the mortgage consortium, values are entered in which the corresponding indices indicate their affiliation to the corresponding moment in time t and the consortium member (or group of the same type of participants) i :

Z - the total cost of the housing being built by the mortgage consortium;

z_{ji} - housing value of the i -th member of the mortgage consortium at time t ;

t_i^0 - the time of entry of the i -th member into the mortgage consortium;

dol_i - share of the current value of housing, upon accumulation of which the i -th member of the mortgage consortium has the right to receive a loan;

Tn_i, Tk_i - maximum accumulation and lending periods;

Psn_{ii}, Psk_{ii} - interest rates of accumulation and lending at time t for the i -th member of the mortgage consortium;

NV_{ii}, KV_{ii} - accumulated deposits and loan payments at the time t of the i -th member of the mortgage consortium;

$ZVPs_t, ZPPs_t$ - interest rates on foreign investments and mortgage consortium loans.

Accumulation of payments of the i -th member of the mortgage consortium for the loan:

$$PN_{ii} = \begin{cases} 0 & t < t_i^0, t > t_i^1 \\ NV_{ii} & t_i^0 \leq t \leq t_i^1 \end{cases} \quad (1)$$

Payments of the i -th member of the mortgage consortium for the loan:

$$PK_{ii} = \begin{cases} 0 & t < t_i^1, t > t_i^2 \\ KV_{ii} & t_i^1 \leq t \leq t_i^2 \end{cases} \quad (2)$$

Dynamics of accumulation of payments of the i -th member of the mortgage consortium:

$$DN_{ii} = 0, t < t_i^0, t > t_i^1,$$

$$DN_{t+1i} = (1 + Psn_{ii}) * DN_{ii} + NV_{t+1i}, \quad (3)$$

$$DN_i(t_i^0) = NV_i(t_i^0), t_i^0 \leq t \leq t_i^1$$

Loan debt:

$$ZK_{ii} = 0, t < t_i^1, t > t_i^2, ZK_{t+1i} = (1 + Psk_{ii}) * ZK_{ii} - KV_{t+1i}, \quad (4)$$

$$ZK_i(t_i^1) = z_i(t_i^1) - KV_i(t_i^1), t_i^1 \leq t \leq t_i^2$$

Withdrawal of accumulated funds:

$$VP_{ii} = \begin{cases} DN_{ii} & t = t_i^1 \\ 0 & t \neq t_i^1 \end{cases} \quad (5)$$

Issuance of loans:

$$VK_{ii} = \begin{cases} DN_{ii} & t = t_i^1 \\ 0 & t \neq t_i^1 \end{cases} \quad (6)$$

The moment of receiving housing:

$$t_i^1 = \min \left[t_i^0 + Tn_i; \min(t : DN_{ii} \geq dol_i * z_{ii}) \right] \quad (7)$$

The moment of repayment of the loan:

$$t_i^2 = \min \left[t_i^1 + Tk_i; \min(t : ZK_{ii} \leq 0) \right] \quad (8)$$

From the applied aspect, the advantages of the built model are the fixation of the scenario of the influx of new customers, as well as the fact that the possibility of early withdrawal or replenishment is not foreseen for internal financial resources. This minimizes the risks of housing investment.

5 Conclusions

Forecasting the domestic reinvestment potential depends on taking into account conceptual approaches to economic recovery. The selection of economic recovery vectors must comply with the Lugano Principles of economic recovery (barrier-free, transparency, environmental friendliness); to be directed to the renewal and modernization of the economic complex for the medium and long term; expanding the list of tools for attracting international donors, foreign and private investments (virtu); establishing a list of criteria for selecting projects and determining their potential contribution to the stability and security of the national economy (defense industry).

Forecasting the internal reinvestment potential depends on the balancing of resources and inter-industry relations, access to financing with a competitive cost of capital, and preparation of projects for the production and infrastructure components of recovery and reconstruction programs.

The conducted analysis of the dynamics of GDP income, which is one of the factors of real estate valuation, decreased during the period of martial law. However, residential real estate prices remained unchanged during this period. There was a decrease in the equity capital of companies, which they could direct to finance long-term and competitive projects that would scale the social synergistic effect. The monitoring of the low return on equity proved that companies will need to use a complex toolkit to enter the financial markets to implement recovery and reinvestment programs, and this requires the adaptability of the methodology for the classification of virtual assets and the norms of the European MiCA Regulation (The Markets in Crypto-Assets).

The formation of the Unified information system for reinvestment recovery of the economy will contribute to ensuring high-quality, fast, timely decision-making regarding the attraction of investment, expanding the network of a centralized data bank that will allow collecting, analyzing, storing, and using data on economically attractive reconstruction projects. Auditors will be able to monitor providers and recipients

of investments for housing construction projects, repairs of destroyed housing stock, modernization of infrastructure, and residential communications.

Stages of economic recovery should take into account sectoral development strategies. Priority should be given to construction that correlates the impact on all sectors of the economy. Its development will be facilitated by the conclusion of agreements in the industrial visa-free segment, the provision of state guarantees to compensate for specific risks, and the use of an investor-friendly strategy. When concluding contracts for social housing (affordable housing), it is advisable to use general methods of decision-making theory, and operations research, namely, the creation of mathematical models of mortgages and their research with simulation models or the solution of optimization problems.

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Impact of Selected Corporate Social Responsibility Activities on Consumer Interest in the Brand. CSR as a Factor Minimizing Competitive Risk

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Abstract. Upon careful examination of organizations' operations on the market it becomes evident that conventional approaches do not ensure triumph. The consideration of the interests of diverse stakeholder groups inside a corporation is a crucial factor in influencing its overall reputation. The formulation of a Corporate Social Responsibility (CSR) strategy is predicated upon the company's engagement in communication with its external environment. The significance of the approach is evidenced by the European Commission's initiative to provide a comprehensive definition of CSR.

The main objective of this study is to examine the impact of chosen CSR initiatives on consumers' willingness to buy and recommend given brand. This will be achieved by determining the degree of respondents' awareness of sustainable business practices, as well as identifying the key activities that are most significant in alerting the brand within the framework of responsible strategies.

The survey was administered to adult individuals from Poland, adhering to the principles of the CAWI approach. A proprietary survey questionnaire was used for the study, which addressed the issues under investigation.

Keywords: brand image · corporate social responsibility · consumer behavior · risk

1 Introduction

In order to accomplish their organizational goals, companies are making efforts to differentiate themselves from rival entities. The examination of various market actions undertaken by corporations reveals that conventional approaches to distinguishing from competitors, such as product change, may not provide favorable outcomes. This trend occurs due to the fact that customer purchase intention is 60% impacted by the perception of the firm, while only 40% is influenced by their view of the items [1].

In recent times, there has been a growing recognition of corporate social responsibility as an effective marketing tactic [2]. The burgeoning interest in CSR may be attributed

to two primary factors. Firstly, consumers are increasingly looking for attributes beyond product quality and affordability. In fact, when comparing identical products, they prefer brands that have a positive social reputation. On the other hand, companies driven primarily by the desire to maximize profits can gain a competitive advantage by directing their attention to social rather than economic variables. Introducing CSR principles in companies minimizes the risk of losing competitiveness [3, 4]. That is why CSR is recognized as an integral part of a profitable corporate strategy and is now considered an essential requirement [5–7]. Such recognition is shared by both individual customers and other businesses [8].

Knowing the significance of CSR, it is still essential to recognize certain issues. The existence of a definitive consensus among academics on the direct correlation between CSR and brand loyalty remains uncertain. Some studies state [9, 10] that CSR demonstrated a direct positive impact on brand loyalty, while other prove that it is not possible to identify there any direct association [11]. What is sure is that the influence of CSR on customer behavior extends beyond the simplistic conceptualization of a direct link [12]. Furthermore, given the several aspects encompassed within the construct of CSR it becomes vital to conduct an analysis and evaluation of how customers view each individual aspect of CSR [13].

The study aims to determine whether consumers pay attention to the CSR strategy manifested by a brand during their market behavior and whether this translates into willingness to buy and recommend brands' offer. Since CSR strategy covers a wide range of topics, the authors are interested in determining which CSR activities have a real impact on consumers' purchasing decisions.

The present article is structured as follows: Firstly, a comprehensive literature review is presented in order to establish the theoretical basis for the empirical section of the study. The subsequent section outlines the methodology employed in this study, as well as the appropriate characteristics of the sample population participating in the survey. Subsequently, the next section of the paper includes the presentation of the study's outcomes and analysis. In the end the authors provide a comprehensive overview of the findings, define the study's limitations, and propose directions for future investigation.

This article contributes to the literature on brand image management and consumer behavior, particularly to the existing research on CSR as it focuses on results obtained under natural conditions rather than under the conditions of a scientific experiment.

2 Theoretical Background

Brand image refers to the views of a brand, which are manifested through the brand associations stored in the memory of consumers [14]. The process enables consumers in identifying and discerning their specific desires and expectations in relation to a particular brand, hence establishing a clear differentiation between the brand and its rivals [15]. For consumers to develop a certain brand image, it is necessary to possess a brand node inside their memory that influences the way various types of information get linked to the brand. The brand image refers to the comprehensive impression and appraisal of the brand, which subsequently impacts the purchase and consumption behavior. Hence, it can be observed that the formation and evolution of a brand image is a dynamic process

that occurs over a period of time. This factor plays a crucial role in the evaluation process that customers do before to making a final purchase decision [16, 17]. In the contemporary business landscape, having favorable brand perceptions is significant in successfully positioning a product in the market. In such a case, the organization gains from a strong alignment between its messaging and the favorable perceptions held by its potential consumers. In short, the brand image has the potential to impact consumers' attitudes and actions through the provision of additional value to products and cultivation of loyalty [18, 19] as it serves as a guide for customers [20, 21].

CSR covers various aspects that contribute to the creation of long-term prospects for businesses, such as adapting to changing society demands and expectations, allocating resources to address social problems, demonstrating a moral commitment to engaging in socially responsible activities, enhancing human resources and intellectual capital, and safeguarding reputation and security. In the study on the organizational innovation and social performance of firms the conclusion appears that CSR plays a key role in ensuring long-term sustainable growth and competitive advantage for companies [22]. CSR also enhances risk management, improves organizational image, increases innovation, competitiveness, and market position, heightens operational efficiency, and cost savings. Additionally, it facilitates the creation of social capital, fosters better access to capital, and strengthens relationships with regulatory bodies [23].

The ongoing growth of CSR can be categorized into a few historical stages [24]. The 1950s and 1960s marked the beginning of the modern era of social responsibility, which emphasized the need to reassess the conduct and operational framework of businesses. In this time, the significant societal worries regarding the rapid expansion of population, pollution, and depletion of resources [25] were accompanied by social movements focusing on environmental issues as well as human and labor rights. During the 1960s additionally a new context emerged characterized by an escalating culture of protest, mostly centered around civil rights and anti-war movements [26]. The 1970s that came as a natural consequence can be summed up as the CSR in management. There was a growing interest in the CSR domain, leading to the emergence of definitions that encompassed multiple dimensions. The unregulated application of the CSR concept in this time resulted in a lack of clarity on its precise definition and so in 1979, Carroll presented his own approach saying that: "The social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time" [27].

The 1980s were the time of the operationalization of CSR. As governments reduced their role in managing business practices, managers were forced to respond to various interest groups. During this time, attention was primarily directed towards exploring the practical implications of CSR rather than advancing its conceptual growth [28]. The 1990s are perceived as the time of globalization. In this time, various events have had a profound impact on the global perception of social responsibility and the strategies employed for sustainable development, e.g., the European Environment Agency in 1990, the United Nations summit on the environment and development in Rio de Janeiro, which resulted in the Rio Declaration on Environment and Development, the adoption of Agenda 21, and the United Nations Framework Convention on Climate Change (UNFCCC) in 1992, as well as the adoption of the Kyoto Protocol in 1997 [29].

The 2000s witnessed the growing recognition of CSR as a potential catalyst for corporate communication aimed at aligning corporations with consumer demands. And the decade of 2010 saw the introduction of guidelines and recommendations for assessing and evaluating environmental, social and managerial performance in the context of sustainability [30].

Today, the concept of passive voluntariness has evolved into mandatory and proactive engagement. The EU, with reference to the UN Guiding Principles on Business and Human Rights and the updated OECD Guidelines for Multinational Enterprises, requires companies to have a social impact and must report non-financial and diversity information. The required non-financial information includes information necessary to understand the development, performance and impact of the company's business. This information relates to environmental, social and labour issues, as well as respect for human rights, anti-corruption and anti-bribery [31].

3 Methodology

The process of research was split into two main stages: literature analysis and empirical research. These stages covered many activities such as formulating research questions, collecting data, doing statistical analysis, and deriving findings. The study employed a questionnaire that was distributed to a targeted sample of Polish adult consumers. The sample selection was conducted using purposive sampling, which is a non-random sampling technique [32].

The minimal sample size for the population of adult individuals in Poland, based on the data available on the official website [33] was established as 385. The sample size (n) is calculated according to the formula:

$$n = \left[z^2 * p * (1 - p) / e^2 \right] / \left[1 + (z^2 * p * (1 - p) / (e^2 * N)) \right] \quad (1)$$

where: $z = 1.96$ for a confidence level (α) of 95%, $p =$ proportion (expressed as a decimal), $N =$ population size, $e =$ margin of error.

$$z = 1.96, p = 0.5, N = 37767000, e = 0.05$$

$$n = \left[1.96 * 0.5 * (1 - 0.5) / 0.05^2 \right] / \left[1 + (1.96^2 * 0.5 * (1 - 0.5) / (0.05^2 * 37767000)) \right] \quad (2)$$

$$n \approx 385$$

The sample size (with finite population correction) is equal to 385. In this context, the variables are defined as follows: n represents the sample size, z denotes the z-score corresponding to a specific degree of confidence, p represents the sample proportion stated as a decimal, e represents the margin of error expressed as a decimal, and N represents the population size. The final number of participants surpassed the first estimated minimal sample size to enhance the representativeness of the sample.

The survey was undertaken in 2022. A questionnaire was sent to participants in accordance with the guidelines of the CAWI approach. The responses were analyzed utilizing the SPSS Statistics software, which has been extensively employed for quantitative data analysis in the field of social sciences for several years.

The study aims to determine whether consumers pay attention to the CSR strategy manifested by a brand during their market behavior and whether this translates into perceptions of that brand. Since CSR strategy covers a wide range of topics, the authors are interested in determining which CSR activities have a real impact on consumers' purchasing decisions. In connection with the purpose of the research, 3 questions were developed:

Q1. Are customers willing to buy and recommend products from socially responsible brands?

Q2. How respondents perceive the intentions of brands implementing socially responsible measures?

Q3. What kind of areas are most often CSR-associated and what are perceived as the most important?

A sample of 1022 respondents participated in the survey (Table 1). The derived results can be interpreted as reflecting the presumed sample structure in terms of age, gender, level of education, and income of respondents. At the outset, respondents were informed about the purpose of the survey, complete anonymity and the possibility of opting out at any time.

Table 1. Socio-demographic characteristics of respondents.

<i>Variables</i>	<i>Frequency</i>	<i>Percentage</i>
1. Gender:		
Male	422	41%
Female	600	59%
2. Age:		
18–25	149	14.6%
26–35	242	23.7%
36–45	474	46.4%
46–55	94	9.2%
56–65	46	4.5%
66 and older	17	1.7%
3. Place of residence:		
Village	94	9.2%
Town up to 50 thousand	115	11.3%
City of 51–150 thousand	128	12.5%

(continued)

Table 1. (continued)

<i>Variables</i>	<i>Frequency</i>	<i>Percentage</i>
City of 151–250 thousand	139	13.6%
City over 250 thousand	546	53.4%
7. Financial situation:		
Very good	234	22.9%
Good	376	36.8%
Mean	363	35.5%
Bad	49	4.8%

4 Results and Discussion

First, respondents' familiarity with the tenets of corporate social responsibility was assessed. Surprisingly, the majority of respondents have either never heard of CSR (54%) or have heard of it but are unfamiliar with its underlying assumptions (24%). For 22%, CSR is not a foreign concept, and they have knowledge of the strategy's underlying premises. Nowadays, CSR strategy has become a permanent, reportable element of companies' activities [34]. In this context, the low level of respondents' awareness of their declarative knowledge of CSR is very surprising.

Respondents were then asked to select from the 12 activities only the 3 that they most associate with the CSR strategy. The most frequently associated activities are taking into account the needs and interests of employees ($n = 778$) and caring for the environment ($n = 777$). The next most important issues are local community concerns ($n = 534$), creating new jobs ($n = 489$), and not testing products on animals ($n = 417$). Supporting cultural, sporting, or scientific activities already received relatively fewer responses than the previous ones ($n = 215$). The next activities received fewer than 200 responses. Offering in-kind or monetary support for a specific worthy cause and running pro-health campaigns (e.g. COVID-19 pandemic) were marked by the same number of respondents ($n = 191$ each), and another activity is supporting people with disabilities ($n = 168$). Supporting animal shelters and foundations ($n = 136$), helping orphanages ($n = 119$) or organising employee volunteering ($n = 109$) were the least associated activities. As mentioned, the public most often notices and identifies environmental activities.

Respondents were also asked to rate to what extent the given activities should be implemented (Table 2). Environmental protection appears to be at the summit of the list. As the majority of individuals become increasingly environmentally conscious, large corporations, and even small businesses can do a great deal to prevent environmental degradation.

There is also growing interest in the motivations behind corporations' CSR initiatives. According to respondents, the most important factors were image enhancement (87%) and attracting new customers (56%). Unfortunately, further responses also indicated companies' selfish motives. Respondents assume that companies only intend to increase their profits (34%) because CSR is widely promoted by the media. Only 26%

Table 2. Values of listed measures of CSR.

<i>Measure</i>	<i>Mean</i>	<i>Std</i>
caring for the environment	4,22	1,03
supporting people with disabilities	4,06	1,01
conducting social campaigns that address health issues	3,06	1,24
taking into account the needs of employees	4,15	1,06
creating new jobs	3,95	1,13
solving local community problems	3,86	1,06
donating funds to a worthy cause	3,60	1,09
supporting scientific/sports/cultural activities	3,58	0,94
organizing employee volunteers	3,30	1,09
supporting foundations and animal shelters	3,80	1,04
helping educational institutions and orphanages	3,76	1,02
not testing products on animals	4,21	1,01

of respondents believe that CSR activities are driven by concern for the environment, morality 18%, or concern for the future of the world (15%).

This observation warrants attention. The majority of respondents point to company financial gain as a determinant rather than a genuine commitment to the local community or environmental wellbeing. Overall, respondents unfavorably perceive the motives behind introductions and do not believe in the sincere intentions of companies. This is consistent with Arla's perspective that customer distrust is often a response to corporate communications [35].

Statements regarding the inclination of the respondents to be interested in brand offerings were also evaluated in 1–5 Likert scale (Table 3).

It can be observed that respondents show more concern for the welfare of others when making purchases. Donations to people in need and those who volunteer are often preferred. The research suggests that when faced with a range of product options, consumers are more likely to choose the one that dedicates its proceeds to a specific cause. In addition, the respondents' propensity to recommend the products of a company that applies CSR strategies received a mean score of 4.17 with a standard deviation of 0.82 in the survey. It can therefore be seen that customers show a consensus in promoting the products offered by companies that apply CSR. The high arithmetic mean and low standard deviation suggest that participants are willing to recommend these products to others.

Respondents were also asked to rate whether the introduction of CSR improved brand image. The answers obtained confirm the opinion that companies that implement a corporate social responsibility strategy improve their image.

Table 3. Inclination to be interested in brand offerings.

<i>Measure</i>	<i>Mean</i>	<i>Std</i>
If I know that the company is working for the society then I am willing to take advantage of the offer	3,97	1,05
I pay attention to whether the store offers disposable bags	3	1,27
I gladly support actions regarding the collection of products for the needy	3,62	1,12
I don't buy products or from a company that degrades the environment	3,54	1,07
I try to choose products from which part of the proceeds go to a worthy cause	3,32	1,06
I always put money in the can for volunteers	3,02	1,13
It's more important for me to care about the local community than to organize training for employees	2,83	1,07
Programs to level the playing field for employees are of little importance to me compared to earth cleaning campaigns	2,60	1,15

5 Summary

In the context of rapid developments and significant worldwide threats it is imperative to effectively uphold the organization's reputation by striking a harmonious equilibrium between the financial gains, public welfare, and environmental preservation [36]. In order to achieve success, organizations are driven to adjusting in response to the process of globalization and the evolving societal values. This adaptation encompasses various aspects, including transitioning from traditional working relationships to collaborative partnerships, shifting focus from short-term profitability to long-term sustainable business development, and embracing a sense of responsibility towards both society and the environment. Those factors necessitate businesses engage in socially responsible endeavors, since the implementation of sustainable, responsible, and ethical practices can yield the most value for any organization [37]. Undoubtedly, the sustained prosperity of a corporation is conditioned by the company's ability to effectively assimilate into its business environment. Hence, the contemporary business scene shows a growing inclination towards the adoption and integration of the corporate social responsibility framework. This framework advocates for transparent operations, environmental preservation, and a heightened emphasis on public welfare [38].

The survey shows that the public receives well the CSR strategy introduced by companies. It can be said that it is sometimes a key element in the decision-making process when choosing a product or service, as they feel the need to help. The results show that social responsibility activities are effective and have an impact on company stakeholders, who are willing to recommend companies' products. An example is Danone, which organized the "Share a Meal" campaign. The campaign consisted of selling products,

with part of the proceeds going to the noble cause of funding meals for needy children. The thought of being able to help with a simple purchase is something of value to the consumer, which additionally does not require a high financial contribution and an outlay of effort and commitment. In addition, it was found that the public is aware of the reason for companies to implement CSR strategies. A large part of the respondent group is aware that brands simply want to improve their image. This information is very important, because it shows that consumers take a rational approach to the activities carried out by companies. Despite the fact that a significant part does not know what corporate social responsibility is, the public has formed its vision of the concept - they mainly identify it with the care of the environment by organizations.

Today's market is incredibly turbulent. Events such as the Covid-19 pandemic or the outbreak of armed conflict in Ukraine lead to the destabilization of many countries' economies and the collapse of many companies. Each additional study provides further knowledge of CSR activities that are most noticeable by customers. Such knowledge can become a factor in building a competitive advantage by standing out among competitors and getting customers interested in your offerings. Nowadays, economic factors often recede into the background, while involvement in issues perceived as important to society makes a company survive.

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Financial Education for University Students: A Personal Leadership Tool

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Abstract. Financial education is fundamental to people's lives, but unfortunately, we are faced with the reality that there is little interest among university students in financial education for financial awareness and personal leadership. Financial education is a means to achieve social development, which includes proper management of personal finances; learning to save, to take out insurance and to know how to use investment instruments. The aim of this research is to show what has been written in the scientific literature on financial education in university students, between 2019 and 2023. The Prism Method was applied, using keywords such as financial education, university students, banks, and personal finance; 20 research articles were obtained from the Science Direct, Scopus, Ebsco and Proquest databases. The results showed that the countries where most research was published were the United States, Italy, and Brazil; the most used database was Science Direct, and the year in which most research was published was 2022. On the other hand, it is evident that financial education can be useful for better money management, diversifying savings, managing debts, knowing the services that banks can offer to increase the economy in a safe way. It is concluded that financial education allows university students to increase their savings with less risk, avoids loans that are difficult to repay, allows them to reflect on their expenses and improves the control of their monthly income.

Keywords: Finance · finance education · students · banks · education

1 Introduction

Financial education is fundamental and not having previous knowledge affects university students' financial wellbeing; currently, acquiring credit is more accessible, but at the same time, high levels of indebtedness and low savings rates are observed [1]. This increases the need to learn about financial education, because generally people are not properly informed and do not make good decisions when obtaining a loan or organizing their finances; in the case of young people, they are naturally not interested in controlling their income and make too many expenditures that are not necessary [2, 3].

Finances are part of our daily lives and often several young people make purchases online, usually through these resources they are tempted to make compulsive purchases and several studies show that young people between 18 and 21 years old commonly have the problem of feeling pressured to make unnecessary purchases. College students should develop skills that provide them with knowledge to manage and invest their capital, make responsible decisions about their finances and be less likely to get into debt; in different surveys conducted internationally, show that young people have a low level in financial matters; but learning about finances is a great advantage for young people as they are still forming habits, and can generate lasting changes for better control of money and a stable economy [4].

[5] mentions that students from moderate-income families are more likely to be in debt than higher-income students. Low-income students' resort to loans to be able to start or continue their studies at a university or institute, which often generates high indebtedness, since due to the lack of financial education there is no analysis of the debt capacity that they could handle.

[6] showed the results of a natural experiment conducted to test the effectiveness of online financial education and a full-time undergraduate program at one of the best public universities in Italy; it was found that there was no statistically significant difference between attending the lecture hall or the online program, but what is most relevant in this experiment is how subsidized this topic is for students.

[7] and [8] argue that young people of immigrant background score worse on tests of knowledge and understanding of personal finance than their peers of non-immigrant background; Germans are educated in finance from the time they are in school.

For [9] financial education programs include not only basic financial knowledge, but also detailed training and practice in planning, budgeting, money management, fundraising, debt management, among others. But many students do not give it enough importance, and this generates deficiencies when making decisions.

[10] evaluated the consistency of positive changes in students' financial literacy after taking the personal finance course; I help them verify the impact of financial education on their economic decision-making, saving, and keeping records of their income and expenses.

College-level personal finance courses are generally electives for students and students are often not interested [11, 12].

[13] provide information on the importance of financial education for young people and its relationship with debt, for this reason they carry out an evaluation, thus giving as a result that students are more likely to contract debt; also, [14] addresses the importance of technology in education and its impact on social development, carrying out a study

for good decision making, providing information for financial well-being and, therefore, creating a great impact on the society.

On the other hand, [15] examine how financial education in Honduras affects business intentions, social and financial inclusion, for this reason they carry out a study that resulted in financial education significantly strengthening the development of student skills, revealing that promoting financial education leads to greater autonomy to face any type of decision-making.

[16] indicated that financial education can be an essential tool to maximize our financial resources and use them wisely, the survey provided results that very few participants claimed to have a higher level of financial education. [17] reveal that people generally lack the basic knowledge to make financial decisions and that ineffective financial decision making creates vulnerability in economic and social situations, as people without financial literacy find it difficult to manage their resources. In addition, [18] reveal that the lack of understanding of financial education affects university students.

As for [19], evaluated undergraduate students focused on decision-making in debt-financed graduate education, they gave a positive response in financial self-efficacy seen, having a high score in financial skills tests and financial self-efficacy tests, therefore policies aimed at improving the financial literacy of students through financial education programs should be considered since financial literacy is an important requirement.

The aim of this research is to determine financial literacy in students in the scientific literature in the years 2019 and 2023, to investigate whether they are more knowledgeable about financial literacy. After reviewing the articles, it can be stated that they provide empirical evidence that financial education and financial literacy are positively related to access to credit and financial inclusion.

2 Methodology

The following systematic review was carried out with the help of the Prisma Method, whose purpose is to show the clarity of the research carried out. The purpose of the following systematic review is to carry out an evaluation of the knowledge that a university student has about financial education, since through various means it can be identified that a large percentage of the population make bad decisions regarding their finances. And in this way the following research question was raised: Do university students have a greater knowledge about financial education?

For the preparation of this research work, various sources of information, primary and secondary, were used, and different bibliographies were used to enrich the content of the report. Scientific research articles published in the following databases such as Scopus, Science Direct, Ebsco and Proquets, available in both Spanish and English, were added. It should be noted that the studies were considered in the period 2019–2023; articles that are scientific are included. Likewise, journals and research articles, theses, books, and conference sessions that did not fit the objective or did not respond to the research question were excluded. The search for information for the systematic review was carried out in the Science Direct, Scopus, Ebsco and Proquets databases. The search equation for the Science direct database was as follows: (TITLE-ABS-KEY (Financial education for AND university students) AND TITLE-ABS-KEY (bank)) AND (TITLE-ABS-KEY

(Personal AND financial)). Then, in the search the following words were used in the descriptor: Science direct, Scopus, Ebsco, Proquets the following equation: Financial AND education for AND university students AND personal AND financial.

Figure 1 shows the prism that explains the databases that were used. Table 1 shows the title, the journal, the database, and the year. Figures 2, 3 and 4 show the percentage of the databases that were used, the percentage of publication per year, and the country, respectively.

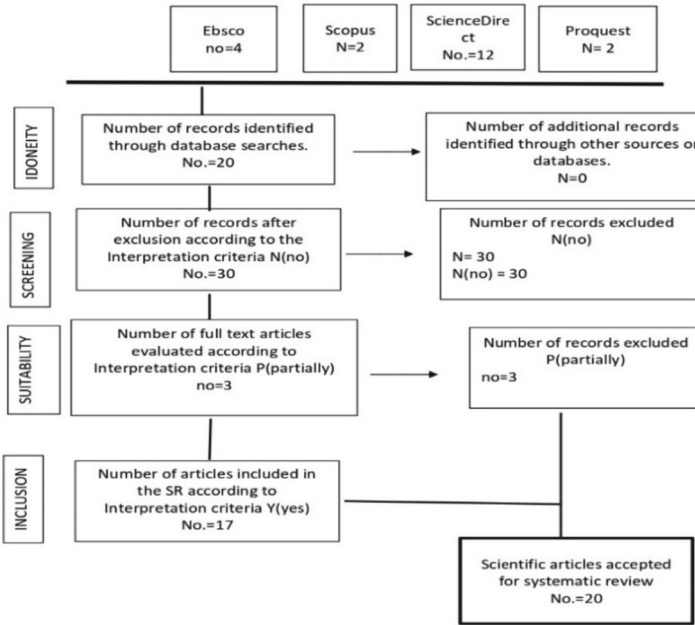


Fig. 1. Prism flowchart

The search for articles carried out in the databases and in the Boolean operators yielded 50 original articles in their entirety in the period from 2019 to 2023, for which reason only 20 articles were used, distributed as follows: Science Direct (12), ProQuest (02), EBSCO (04), Scopus (02).

3 Results

Table 1 shows the bases used for the systematic review.

Table 1. Selected articles in the systematization

No.	Article Name	Journal	Data Base	Year
1	Achieving the United Nations' sustainable development goals through financial inclusion: A systematic literature review of access to finance across the globe	International Review of Financial Analysis	ScienceDirect	2021
2	Causal Effects of Financial Education Intervention Aimed at University Students on Financial Knowledge and Financial Self-Efficacy	Journal of Risk and Financial Management	Proquest	2022
3	Digital and financial literacy as determinants of digital payments and personal finance	Economic Letters	ScienceDirect	2022
4	Financial Education: Measurement of Financial Knowledge of Federal University Students and its Correlation with the Big Five Personality Factors	Agora Journal	Ebsco	2022
5	Indebtedness and financial education in university students	Venezuelan Management Journal	Scopus	2022
6	Factors that Influence the Financial Literacy among Engineering Students	Proceded Computer Science	ScienceDirect	2020
7	Financial Education from The Perspective of University Students: Comparative Study	Eurasian Journal of Social Sciences	Proquest	2021
8	Financing of higher education in Tanzania through the student loan scheme and its impact on equitable access	Cell Press	ScienceDirect	2023
9	Financial Education in the Development of Abilities of University Students	International Journal of Education & Learning	Ebsco	2019
10	Multinomial Logistic Regression to Estimate the Financial Education and Financial Knowledge of University Students in Chile	Info	Ebsco	2021

(continued)

Table 1. (continued)

No.	Article Name	Journal	Data Base	Year
11	Online or on-campus? Analyzing the effects of financial education on student knowledge gain	Evaluation and Program Planning	ScienceDirect	2023
12	Academic Period, Level of Consumption, Financial Planning: How is the Financial Education of Graduating Students of the University of São João Del-Rei?1	Management and Analysis Journal	Ebsco	2020
13	Personal bankruptcy and consumer credit delinquency: The case of personal finance education	International Review of Financial Analysis	ScienceDirect	2022
14	Personal finance education mandates and student loan repayment	Financial economics Journal	ScienceDirect	2022
15	SaveWise: The impact of a real-life financial education program for ninth grade students in the Netherlands	Journal of Behavioral and Experimental Finance	ScienceDirect	2022
16	Technology and its Social Impact on Financial Education	Inter. Journal of Tech., Science and Society	Scopus	2023
17	The Case for Needed Financial Literacy Curriculum During Resident Education	Journal of Surgical Education	ScienceDirect	2023
18	The effect of financial education on students' consumer choices: Evidence from a randomized experiment	Journal of Economic Behavior & Organization	ScienceDirect	2021
19	The relationship between migration background and knowledge and understanding of personal finance of young adults in Germany	International Review of Economics Education	ScienceDirect	2019
20	Undergraduate student financial education interventions: medium term evidence of retention, decay, and confidence in financial literacy	Pacific Basin Finance Journal	ScienceDirect	2021

4 Results and Discussion

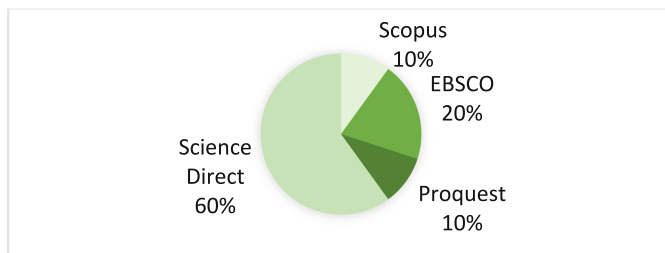


Fig. 2. Article search engines

According to the total number of scientific articles related to the research topic, Fig. 3 shows that the year 2022 had the highest number of published documents, accounting for 35% of the total, with the rest distributed among the years 2019 (10%), 2020 (10%), 2021 (25%), and 2023 (20%), thus completing the required 20 articles.

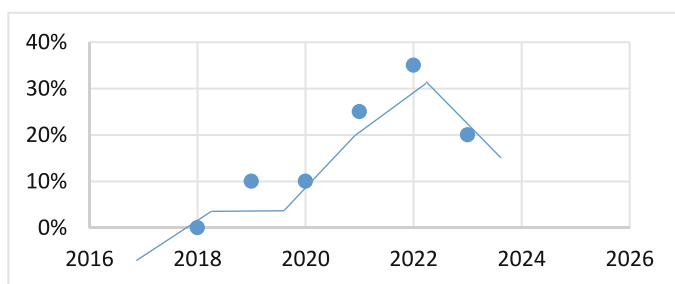


Fig. 3. Selection of articles by year

According to the research conducted in specialized search engines, Fig. 4 indicates that the United States, Brazil, Italy, Mexico, and the Netherlands have the highest number of publications related to our topic, accounting for 10% of the 20 scientific articles used for the present review. The remaining distribution is as follows: Germany (5%), Australia (5%), Canada (5%), Chile (5%), Spain (5%), Estonia (5%), Honduras (5%), India (5%), the United Kingdom (5%), and Tanzania (5%).

The articles used for the systematic review were from Proquets, Ebsco and Science direct, in addition, articles from more recent years such as 2023 and 2022 were obtained from these databases and information could be obtained on the programs that are currently being carried out, including the level of financial education, which is currently low.

For the most part, the programs and projects being carried out to promote financial education have a good impact since the questionnaires conducted after these trainings show that knowledge among young people increased.

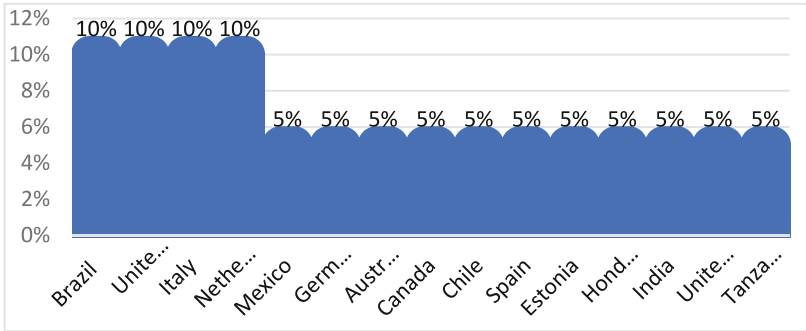


Fig. 4. Percentage of articles published by country

Uncertainty was found in which stage would be the most appropriate to start learning about personal finance and in one study it is mentioned that in a culture where finance is taught from school in the future there will be better results but there are also many studies that show little interest in young people to learn and this could affect personal finance programs except for some countries like Germany where a better level of financial education can be found.

[2] shows that programs were included in the students' curriculum, which mostly helped them to graduate, broaden their curriculum and reach the standards that society demands, this coincides with what was said by [4], who argues that taking a financial education course is effective because it helps students to increase their financial knowledge and become more critical in managing their money. [1] according to the results presented, it is concluded that low and middle income students require credit to continue their studies, but many of them do not have the ability to differentiate the types of credit they could acquire, in this sense, through a financial course, they could expand their knowledge and make a comparison when applying for financial services, and this agrees with [5] and his plan for the state to grant credits to higher education students, to support them and enable them to continue with their studies, since many of them work and have the necessary money, however, due to lack of a credit history, they cannot access the financing service.

[8] argue that a study conducted in Germany proves that young adults have a greater knowledge of financial issues, unlike migrants who are not related to their culture since they receive financial education since they are in elementary school, demonstrating how the training that this country provides to its citizens has a positive impact with the help of the promotion of education in the management of their expenses and income, This is consistent with what [20], who collected data from students in universities in Estonia and Finland, tells us, the results showed that there is a medium level of interest and knowledge regarding financial education, thus evidencing that the best stage to start taking a course on finance is in higher education, since most young people are forming habits and will be more likely to adapt.

[21] noticed that a large number of students do not understand about financial topics and this is due to lack of interest and information, on the other hand, there is the intellectual capacity to understand the content of these financial programs since practice

and previous knowledge is needed to be able to perform quickly, which agrees with what [12] state that education is related to learning finance and sometimes there is an imbalance since more than interest is needed to learn because mathematical knowledge is important to make the best decisions.

[3] conducted a program that helped high school students to improve their knowledge of financial issues and encouraged this group of young people to spend less and save, creating a stimulus for their entrepreneurial spirit, and this program is complemented by the study of [15] who assures that financial education is the basis for encouraging students to carry out entrepreneurial projects, and in this way many young people would become independent and improve their economy.

[10] assures that financial education should start from high school and that programs should contain sessions where budgeting, money and debt management are taught, however [6] does not agree with this idea since he conducted a study at the University of Italy which shows that those people who are working have a better level of financial education, he also states that it is necessary to have academic competence to carry out the financial education initiative and obtain great results since it helps them to build skills faster.

5 Conclusion

It is concluded that the systematic review presents diverse theories on financial education knowledge in students, which can be evidenced by the different tests and programs that were carried out to promote financial knowledge and to know the interest in knowing more about it, several of them were carried out in high schools and universities, and in relation to the level of understanding in financial matters, it can be deduced that there is a deficiency in terms of financial awareness and it can be affirmed that the best stage to learn about finances is in higher education since this is the time when young people enter the labor market and have the ability to understand the importance of responsibly managing their financial resources.

It is proposed that more studies be conducted in schools and universities to learn more about the factors of indebtedness and what are the reasons for the lack of interest of students in attending workshops to learn financial education.

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The Dynamics of Human Resource Development in the UAE

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Abstract. As the UAE attempts to transition into a knowledge-based economy, it is important to understand how human resources need to be developed in order for this transition to be successful. As a result, we investigate the dynamics of the UAE's human resources with a particular focus on its determinants. In this study, we use an annual data that ranges from 1975 to 2017 and all the data were obtained from the World Development Indicators (WDI) and the United Arab Emirates. In order to assess empirically, the dynamics of the HRD of the UAE, we used the ARDL bounds test to co-integration. This methodology offers several advantages compared to other co-integration methods found in the literature, which is why we have opted for its use. Based on the ARDL bounds test, all equations estimated in this study, with one exception, showed co-integration relationship between all the variables studied. The short run results show that almost all of the variables have a positive impact on the HRD of the UAE, which confirms the findings of the long run. Consequently, we can say with absolute certainty that the variables we chose for this investigation appear to move together over time. Based on the findings of this study, a main policy recommendation for enhancing HRD in the UAE is first by promoting innovation and fostering a culture of innovation coupled with invest in Smart Governance since building a more efficient and technology-driven government is essential.

Keywords: Human resource development · UAE · ARDL bounds test · Co-integration

1 Introduction

It is a well-established fact that improvements in a nation's human resources, also known as human capital, have a positive correlation with many economic development indices of the nation's economy. Therefore, gaining an understanding of the relationship and links between human resource development (HRD) in the context of the UAE would unquestionably prove useful in realizing the nation's strategic vision for the year 2021.

Understanding the dynamics of these relationships will undoubtedly enhance our comprehension of UAE HRD, which is essential for designing comprehensive policies¹.

¹ For a complete insight on the dynamics of HRD, see Siregar and Selwendri (2023); Hussin et al. (2023); Das and Chanda (2023); Abbas et al. (2021); Asadi & Marin (2019); Attanasio, O. (2015).

The United Arab Emirates (UAE) heavily relies on foreign workers to meet its labor force requirements and drive overall economic growth. The percentage of foreign workers in the UAE's labor force has steadily grown in recent years, driven by the country's immigration policies and dynamic economic goals.

Hence, it is of utmost importance to understand how population expansion and the Emiratisation effort, initiated by the federal government of the UAE, affect the HRD process. In the past two years, the government has introduced new policies and programs aimed at gradually replacing expatriates with UAE locals, a process referred to as Emiratisation. This aligns with the UAE's strategic vision, which seeks to reduce dependence on expatriates by equipping UAE locals with the necessary skills to compete effectively in these roles.

Consequently, this endeavor is in line with the UAE's economic diversification goals. It is anticipated that, over time, this will lead to a progressive reduction in the demographic imbalance and the size of the country's expatriate population.

In retrospect, since the discovery of oil in the early 1960s, the UAE's economy has heavily relied on its oil industry, making substantial contributions to various sectors. This dependence has remained largely unchanged over the years. However, more recently, the UAE government has been actively pursuing economic diversification to reduce its reliance on revenue from oil and gas sales.

In the wake of the global financial crisis of 2008, the United Arab Emirates has made significant strides toward achieving its Vision 2021, aiming to build a sustainable and diversified economy. Currently, the UAE is undergoing a gradual transformation into an information-based economy, a shift that strongly encourages innovation as a primary driver of economic change.

Within this context, our focus lies in investigating the intricate connections between human resource development (HRD) and innovation. We pay particular attention to other factors that play mediating roles, such as intellectual property rights, economic freedom, and electronic governance. This exploration not only sheds light on these relationships but also deepens our fundamental understanding of their dynamics, an essential foundation for devising effective strategies that lead to further enhancements.

Moreover, there is a widespread consensus among both academics and policymakers that advances in human resource development not only drive innovation but also reduce dependence on oil and gas exports by simultaneously lowering energy intensity and promoting the use of renewable energy. This shared belief is held by both groups.

Undoubtedly, the transition from fossil fuels to renewable energy sources is a pivotal strategy for reducing energy intensity while maintaining current energy consumption levels. To achieve this goal, the UAE government has proactively designed new policies, established strategic objectives for Vision 2021, and undertaken deliberate initiatives in renewable energy. Over recent years, the United Arab Emirates has been committed to decreasing the proportion of non-renewable energy sources in its overall energy production. However, to meet the ever-increasing energy demand, the UAE has significantly increased its production of renewable energy.

This interplay reflects the UAE's economic diversification efforts and its determination to reduce its extensive reliance on oil and gas. Consequently, we will investigate the

relationship between HRD and energy intensity in the UAE to comprehend this crucial correlation.

The core objective of this study is to investigate how a set of selected variables, chosen to accurately portray the dynamics of the UAE's economy, influence the growth of human resources. These variables include, Population growth; UAE's Economic growth; Innovation; Efficiency in E-Government; and Economic Freedom.

Despite the significance of the connections between HRD and these variables, we hold the opinion that one factor holds greater significance in terms of its impact compared to the others. This factor can be measured on various scales, encompassing the rate of economic growth, income and wealth levels and growth, unemployment rates, export performance, and more. It serves as the vital link between the growth of human resources and the overall economic expansion.

Furthermore, the HRD variable can be approximated through numerous factors, including the total years of education, educational attainment, life expectancy, and more. This study will primarily involve empirical research, employing various methodologies, which will be elaborated upon in the forthcoming methodology section.

Problem Statement: While the development of a country's human resources significantly impacts its economy, there's a notable lack of comprehensive research on this subject, particularly in the context of the UAE. This research gap has spurred our interest, leading us to focus on this crucial issue within the United Arab Emirates. Furthermore, the absence of clear evidence on how population growth, national income, economic security, economic freedom, and innovation affect HRD has motivated this research, aiming to contribute to the existing body of literature.

A deeper examination of existing research indicates inconclusive results, with a key contributing factor being the country under study. These variables may have different impacts, or none at all, on HRD. For example, the impact of population growth on HRD can shift over time; higher fertility rates may have short-term negative effects due to the associated costs but long-term positive effects by expanding the labor force, which is beneficial for HRD.

Scholars hold varying perspectives on whether population growth drives HRD or vice versa. Given the importance of this finding to our research, we will provide systematic responses to the following research questions.

Significance of the Study: This study adds valuable contributions to the existing HRD literature, particularly in the context of the UAE, in several significant ways. The current body of literature lacks a conclusive understanding of the relationship between HRD and the control variables under study.

First, this research introduces a novel empirical analysis, focusing exclusively on the UAE, filling a substantial knowledge gap in the existing literature. Second, given the diversity of empirical findings and the pivotal role of HRD in the nation's economic growth and development, there's a clear need not only for further research in this field but also for the application of innovative methodologies. These methodologies aim to determine the nature of the connection between HRD and specific variables, including population growth, security, innovation, economic freedom, and economic development. Thirdly, the aim of this research is to comprehend the dynamics of the Emiratization initiative in tandem with the UAE's human resource development, with the ultimate goal

of enhancing the support for Emiratis. This understanding will undeniably shed light on the formulation and design of effective policies to address this issue.

The study is organized as follows; section two will present a brief literature review and section three will present the methodology. Section four will present the findings of the study followed by section five which concludes the study.

2 Brief Literature Review

The analysis of prior research will constitute a vital component of this comprehensive research study of the HRD of the UAE and it holds considerable importance in the research process. Focusing on the UAE, this review of previous research is designed to gain a comprehensive understanding of the issues and how they have been addressed in diverse countries. This review will enable us to gain insights into current trends related to the problem issue, drawn from a variety of literature sources.

As per Crenshaw et al. (1997), rapid population growth is often held responsible for economic stagnation in developing countries. However, some argue that it can be economically beneficial. In a cross-national study encompassing 75 developing nations, the research concluded that an increase in the child population hinders economic progress, whereas an increase in the adult population contributes to economic development. However, according to Arfanuzzaman (2019), population expansion can be attributed to a range of outcomes, encompassing factors related to mortality, migration, and fertility, all of which may yield positive or negative impacts. In general, a nation's population growth rate is shaped by multiple factors, with migration being one influential element. Moreover, the fertility rate and the death rate directly affect a country's population expansion. Migration constitutes yet another factor with potential to impact a nation's overall population growth.

In a study by Azam et al. (2020), the aim is to investigate the relationship between population growth and economic expansion in India's low-middle-income economy. This research evaluates the Malthusian and Kremer theories. Empirical results support the validity of Kremer's theory, which posits that population growth promotes economic progress. Recent findings indicate that the United Arab Emirates boasts the fastest population growth rate in the entire Arab region. This insight, shared by Khalil (2017), also highlights the continuous rise in the UAE's population. Notably, the rate of population growth in the United Arab Emirates has witnessed a discernible acceleration over the past few decades.

As argued by Alkire (2003), safeguarding the fundamental principles of the population is essential to ensure human security. The objective of advancing human security is to prioritize the well-being of a country's population. In the planned study, human security of the population in the UAE may serve as the independent variable. As emphasized by Baldwin (1997), the values to be preserved are diverse. The aim of national security should encompass the protection of the country's political and economic facets. Any demographic imbalance that jeopardizes the UAE's economic security could pose risks. It is crucial to grasp security in its truest sense. As highlighted in Onley's (2009) work, governing bodies of nations have a crucial role in safeguarding the interests and well-being of their populations. Diverse forms of insecurity may necessitate appropriate

government action. Minimizing dependence on external defenders is essential for the sake of national independence.

As suggested by Mamoon (2012), competent governing authorities have the potential to enhance and make economic security more tangible. Government actions should be concentrated on ensuring the efficient operation of economic elements. The establishment of robust economic security can be facilitated through employment.

In the study by Owolabi and Okwu (2010), the examination focuses on how human resource development, particularly education and health indicators, influences economic growth in Nigeria. The research employs a statistical approach to assess the relationship between different human resource development indicators and gross domestic product (GDP). The findings indicate that only the enrollment rates in secondary and tertiary education exhibit a significant impact on the economy.

According to Lee (2020), innovation has emerged as a pivotal element in the economic and social development of the United Arab Emirates. The innovative strategies adopted by the UAE have played a vital role in propelling the country's economy toward rapid growth. The achievements of the UAE have contributed to the establishment of a dynamic and competitive economy. According to a number of studies, innovation is absolutely necessary for the continued expansion of the economy as well as the economy on a worldwide scale. The United Arab Emirates government has been at the forefront of innovation with programs such as Vision 2021.

Salvatore (2018) contends that the utilization of e-governance processes has steadily risen worldwide over time. The effective execution of government functions requires the integration of various communication and information technologies in the implementation of electronic government. E-government services not only enhance transparency but also improve citizens' efficiency in engaging in government decision-making. E-government services have made it possible for citizens to receive government services in a more convenient manner and from any location they choose, thanks to the fact that these services are now available to them. The flexibility of e-governance has been of advantage to the individual growth as well as the advancement of society.

3 Methodology

We will undertake an empirical study on this topic using an econometric model and collecting relevant data for a comprehensive analysis of the determinants and dynamics of HRD in the UAE. This study combines various factors with contemporary econometric techniques to enhance the accuracy and reliability of our results. In this study, we use an annual data that ranges from 1975 to 2017 and all variables are transformed into natural logarithms. The primary regression model that we use in this study is formulated as follows:

$$HRD_t = \gamma_1 + \gamma_2 POPG_t + \gamma_3 RGDPG_t + \gamma_4 ECOS_t + \gamma_5 ECNF_t + \gamma_6 INNV_t + \mu_t \quad (1)$$

where each of these variables are defined as follows;

HRD_t = is the human resource development variable which is measured by an index and is the dependent variable of our study; $POPG_t$ = is the population growth variable; $RGDPG_t$ = is the real GDP growth rate of the UAE; $ECOS_t$ = is the economic security

variable; $ECNF_t$ = is the economic freedom variable and $INNV_t$ = is the innovation variable. The explanatory variables in our regression model encompass various aspects that influence and determine human resource development (HRD) in the UAE, which is our primary dependent variable.

We start our empirical analysis by conducting unit root tests of all the variables in our model before moving on to the in-depth analysis of the regression model. To this end, we use The Augmented Dicky Fuller (ADF) unit root test (1979), the Phillips Perron (PP) (1988) unit root test, and the Kwiatkowski, Phillips, Schmidt and Shin (KPSS) (1992) unit root test since these unit root tests are among the most widely used tests in the literature.

However, to empirically examine these economic relationships, it is crucial to first assess whether these variables are co-integrated, signifying a lasting relationship between them. In essence, the primary objective of co-integration testing in the empirical literature is to ascertain the long-term relationship between the dependent variable and the independent variable. It is well-established in economics that macroeconomic variables typically exhibit co-movements around equilibrium, a relationship that can be empirically tested using co-integration techniques. However, it is evident from the empirical econometric literature that there are several co-integration models to choose from, providing numerous options to researchers. As a result of this, we have chosen to implement the Autoregressive Distributed Lag (ARDL) bounds testing methodology for co-integration in this research. This methodology offers several advantages compared to other co-integration methods found in the literature, which is why we have opted for its use. Accordingly, the following functional form is typically used to define the ARDL model in the literature:

$$\Delta y_t = a_0 + a_1 y_{t-1} + a_2 x_{t-1} + \sum_{i=1}^p b_1 \Delta y_{t-i} + \sum_{i=0}^q b_2 \Delta x_{t-i} + \epsilon_t \quad (2)$$

where $t = 1, 2, \dots, T$ is the time index; Δ generally represents the difference operator; y_t is the dependent variable of our empirical model while x_t represents the explanatory variables of our model which are population growth, income growth which is represented by the growth of the real GDP, economic security variable, economic freedom and innovation; ϵ_t is the error term which is assumed to be independent and identically distributed (i.e. i.i.d) with expected value of zero (i.e. its mean value is equal to zero) and constant variance. More specifically and technically, the ϵ_t is usually specified in the econometric literature as the following equation;

$$\epsilon_t \sim N(0, \delta^2)$$

Since Eq. 2 generally signifies the functional form of the ARDL model in the empirical literature, we will now formally identify the ARDL bounds testing procedure to co-integration that we will be applying in estimating the main regression equations of the present study which takes the following ARDL functional form;

$$\begin{aligned} \Delta HRD_t = & \gamma_{01} + \sum_{i=1}^p \gamma_{1i} \Delta HRD_{t-i} + \sum_{i=0}^{q1} \gamma_{2i} \Delta POPG_{t-i} + \sum_{i=0}^{q2} \gamma_{3i} \Delta RGDPG_{t-i} \\ & + \sum_{i=0}^{q3} \gamma_{4i} \Delta ECOS_{t-i} + \sum_{i=0}^{q4} \gamma_{5i} \Delta ECNF_{t-i} + \sum_{i=0}^{q5} \gamma_{6i} \Delta INNV_{t-i} + \delta_{11} HRD_{t-1} \end{aligned}$$

$$+ \delta_{21}POPG_{t-1} + \delta_{31}RGDPR_{t-1} + \delta_{41}ECOS_{t-1} + \delta_{51}ECNF_{t-1} + \delta_{61}INNV_{t-1} + \varepsilon_{1t} \quad (3)$$

To empirically perform the ARDL bounds testing procedure for co-integration, it usually involves two essential consecutive steps. In the first step, as is frequently done, the analysis begins by examining whether a co-integration relationship exists among the model's variables. The second step in the ARDL bounds testing procedure for co-integration involves estimating the long-run relationships of the variables in our model. Afterward, we proceed to estimate the short-run dynamics of the model using an unrestricted error correction model (ECM), as is common practice in empirical econometric literature. This ECM is associated with our long-run ARDL econometric model estimates. The estimates of the short dynamic parameters of our ARDL model can be straightforwardly obtained by using the following equation;

$$\begin{aligned} \Delta HRD_t = & a_{01} + \sum_{i=1}^p b_{1i}HRD_{t-i} + \sum_{i=0}^{q1} b_{2i}POPG_{t-i} + \sum_{i=0}^{q2} b_{3i}RGDPG_{t-i} \\ & + \sum_{i=0}^{q3} b_{4i}ECOS_{t-i} + \sum_{i=0}^{q4} b_{5i}ECNF_{t-i} + \sum_{i=0}^{q5} b_{6i}INNV_{t-i} + d_1ECM_{t-1} + \varepsilon_{1t} \end{aligned} \quad (4)$$

The variables are as previously defined, with the addition of ECM_{t-1} as a new variable in our ARDL model. This variable represents the error correction term derived from the equations describing the long-run relationships among the variables in our model.

4 Data and Empirical Results

In this study, we utilize time series data for all the variables, which were sourced from various outlets. Specifically, the data were gathered from the World Development Indicators (WDI) and the United Arab Emirates. The dataset covers the years 1975 to 2017, and this timeframe corresponds to the availability of data for all the variables.

It is vital to emphasize that before beginning the empirical analysis of the data, it is imperative to examine the descriptive statistics of the primary variables of this study. In Table 1, we provide descriptive statistics for the variables considered.

statistical characteristics of the primary variables that were considered in this research.

The data presented in Table 1 makes it clear that all of the variables have mean and median values that are approximately equivalent. The maximum and minimum statistics reveal that these variables, while generally consistent, exhibited significant fluctuations in value throughout the sample period. Specifically, the security variable, the smart government variable, and the real gross domestic product variable displayed the highest standard deviations, indicating that they were the most volatile variables over the sample period. Furthermore, the coefficient of skewness for each variable is below one and very close to zero, suggesting a symmetrical distribution of the variables in this study. This symmetry is evident when examining the skewness coefficients. With the exception of the innovation variable, which exhibits a kurtosis greater than 3, all other variables have a kurtosis less than 3, indicating a platykurtic distribution in the data. The results of the

Table 1. Descriptive Statistics

Variable	Mean	Median	St. Dev	Max	Min	Skewness	Kurtosis	J-B Prob
HRDT	4.291	4.299	0.045	4.354	4.188	-0.561	2.318	0.213
ECNF	1.936	1.947	0.041	1.989	1.835	-0.721	2.439	0.117
EGOV	13.277	13.635	1.144	14.666	10.493	-0.687	2.472	0.143
RGDP	25.279	25.049	0.951	26.768	23.678	0.262	1.694	0.169
INNV	9.098	9.202	0.336	9.433	7.947	-1.662	5.558	0.000
POPG	14.812	14.775	0.822	16.046	13.232	-0.027	1.963	0.381
ECOS	20.351	19.664	2.267	23.375	17.071	0.125	1.338	0.107

Jarque-Bera statistics suggest that the datasets utilized in this study do not significantly deviate from a normal distribution.

Before proceeding with our empirical analysis, it is essential to test the order of integration for all the variables in our study. This will provide us with the necessary foundation for conducting our empirical analysis. Table 2 presents the results of these tests for your reference.

Table 2. Unit Root Test Results

Variable	ADF		PP		KPSS	
	Level	1 st Difference	Level	1 st Difference	Level	1 st Difference
HRDT						
ECOF	-2.09	-7.46***	-2.32	-15.33***	0.17	0.12**
EGOV	-7.64***		-6.02***		-3.33***	
RGDP	-0.65	-5.36***	-0.67	-5.35***	0.80	0.07***
INNV	-8.48***		-6.68***		0.65***	
POPG	-1.32	-3.41***	-1.91	-3.28***	0.82	0.24***
ECOS	-0.80	-11.15***	-1.77	-15.57***	0.75	0.16***

*** indicates that the variable is significant at the 1% level.

Based on these findings, all variables are non-stationary at their respective levels, except for the variables representing smart governance and innovation, which are stationary at their respective levels. Therefore, this suggests that all the variables in our study are either stationary at their level or integrated of order one, which unequivocally meets the prerequisite condition for the ARDL bounds test model. With all the prerequisite requirements of the ARDL model now satisfactorily met, we can proceed with the estimation process of the ARDL model.

The initial stage in conducting the co-integration test, as outlined in empirical literature, involves determining the appropriate number of lags to apply to the variables for an effective co-integration test. This step marks the beginning of the co-integration test procedure. According to Bahmani-Oskooee and Bohl (2000), the choice of lags to apply to a variable is influenced by the manner in which the VAR model is implemented and is an ongoing consideration. In order to achieve efficiency, we used the Akaike Information Criterion (AIC) to determine the optimal number of lags to apply to this test. The bounds test concludes that co-integration exists by comparing observed F-statistics with the critical values at the 1%, 5%, and 10% levels of significance. As a basis for the comparison, we relied on the 5% significance level of the Pesaran et al. (2001) critical values. In order to determine whether or not the variables are co-integrated, the observed F-statistics need to be greater than the critical value’s upper bound in order to make that determination. Table 3 presents the results of the ARDL model.

Table 3. Results from the Bounds Test

Dependent Variable	AIC lags	F-Statistic	Lower bound 95%	Upper bound 95%	Decision
<i>F_{HRDT}</i>	4	9.175	2.27	3.28	Co-integration
<i>F_{EGOV}</i>	2	7.751	2.27	3.28	Co-integration
<i>F_{ECNF}</i>	2	6.666	2.27	3.28	Co-integration
<i>F_{RGDP}</i>	2	4.389	2.27	3.28	Co-integration
<i>F_{INNV}</i>	2	12.732	2.27	3.28	Co-integration
<i>F_{POPG}</i>	2	1.523	2.27	3.28	No co-integration
<i>F_{ECOS}</i>	2	4.320	2.27	3.28	Co-integration

Based on the ARDL bounds test, all equations studied in this study, with one exception, showed co-integration between the variables studied. Consequently, we can say with absolute certainty that the variables we chose for this investigation appear to move together over time. In Table 4, we present the ARDL long run findings.

The results presented in Table 4 indicate that all coefficient estimates for the independent variables are statistically significant at the 1% level, except for the innovation variable, which was statistically insignificant. According to the Table, each variable exhibited the expected positive sign, supporting the predictions of the theory. Through these quantitative analyses, we were able to show that HRD in the UAE was significantly correlated with the variables we had chosen for inclusion as its determinants. In light of the findings of the study, we are able to draw this conclusion.

In empirical research, an error correction model associated with long run estimations is generally used to estimate the short run dynamics of the model. Table 5 shows the short-run dynamics, which are related to the model’s long-run outcomes.

Similarly, these results show that almost all of the variables have a positive impact on the HRD of the UAE, which confirms the findings of the long run. As expected, the

Table 4. ARDL Long Run Results

Variable	Coefficient	T-statistic	Probability
C	3.778	10.48	0.000
ECNF	0.732	3.49	0.001
EGOV	2.532	10.05	0.000
ECOS	0.122	4.08	0.000
INNV	0.713	1.96	0.061
POPG	1.273	5.41	0.000
RGDP	0.736	5.42	0.000

Table 5. Short Run Results

Variable	Coefficient	T-Statistic	Probability
D(ECNF)	0.215	1.389	0.177
D(ECNF) _{t-1}	0.592	3.825	0.000
D(EGOV)	0.024	4.312	0.000
D(EGOV) _{t-1}	-0.026	-3.951	0.000
D(ECOS)	0.082	3.263	0.003
D(INNV)	-0.007	-1.189	0.246
D(POPG)	0.027	2.674	0.013
D(POPG) _{t-1}	0.021	2.15	0.041
D(RGDP)	0.012	5.007	0.000
ECT(-1)	-0.814	5.132	0.000

coefficients of the short-run variables in the regression are of a more moderate size and lesser magnitude compared to the coefficients of the long-run variables. In addition to the fact that most of the variables had the positive sign, they are also statistically significant. The error correction term ECT(-1) signifies the speed at which the model adjusts towards the long-run equilibrium after a shock to the model. This speed is denoted as a negative value. According to Pahlavani et al. (2005), a stable error correction model must possess two critical characteristics. First, it should have a negative sign, and second, it should be statistically significant. Both of these conditions must be satisfied.

5 Conclusion

In this study, we analyze the dynamics and main factors that affect the human resources development in the United Arab Emirates (UAE), by mainly concentrating on population growth, economic security, economic growth, economic freedom e-government and

innovation among other things. In order to carry out this analysis, we use time series data and the data were obtained from two sources namely, the World Bank's World Development Indicators (WDI), and the United Arab Emirates. As all variables are available for 1975 to 2017, the data ranges from 1975 to 2017. We started our empirical analysis by first examining the order of integration of all the variables by using the Augmented Dicky Fuller (ADF) unit root test (1979), the Phillips Perron (PP) (1988) unit root test, and the Kwiatkowski, Phillips, Schmidt and Shin (KPSS) (1992) unit root test. Our results have indicated that all the variables are non-stationary at their respective levels, except for the variables representing smart governance and innovation, which are stationary at their respective levels. In order to assess empirically, the dynamics of the HRD of the UAE, we used the ARDL bounds test to co-integration. Based on the ARDL bounds test, all equations estimated in this study, with one exception, showed co-integration relationship between the variables studied. The results indicate that all coefficient estimates for the independent variables are statistically significant at the 1% level, except for the innovation variable, which was statistically insignificant. Also, each variable exhibited the expected positive sign, supporting the predictions of the theory. Through these quantitative analyses, we were able to show that HRD in the UAE was significantly correlated with all the variables we had chosen for inclusion as its determinants. Similarly, the short run results show that almost all of the variables have a positive impact on the HRD of the UAE, which confirms the findings of the long run.

Based on the findings of this study, here are some policy recommendations for enhancing HRD in the UAE: Promoting Innovation and fostering a culture of innovation; Invest in Smart Governance since building a more efficient and technology-driven government is essential; Maintaining Economic Freedom is essential for UAE and should continue to uphold its economic freedom, attracting businesses and fostering entrepreneurship.

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The Effects of Public Service Motivation on Employees' Intention to Stay

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Abstract. Public service motivation is crucial in the public sector and nonprofit organizations because it ensures that individuals working in these sectors are dedicated to the public good, ethical in their actions, and committed to improving society. This paper aims to show integrative literature links between public service motivation and intention to stay through the mediation of job satisfaction and commitment. Based on the literature, this paper provides considerable evidence that public service motivation (PSM) predicts job satisfaction and intention to stay. This paper specifically focuses on the factors behind the motivation of public service employees and the determinants of the intention to stay. Finally, this paper suggests a research direction for further investigation on PSM and how intention to stay can be predicted based on other variables such as organizational commitment and perceived opportunities for career advancement. Additionally, it highlights the importance of understanding the role of PSM in fostering a sense of purpose and fulfilment among public service employees, which in turn can contribute to their intention to stay in the organization.

Keywords: PSM · Intention to Stay · Affective Commitment · job satisfaction

1 Introduction

Understanding employee motivation is crucial for public sector organizations, as it helps managers understand the factors driving their staff's enthusiasm and motivation. Public Service Motivation (PSM) is one of the main elements that directly enhances service quality through work satisfaction. PSM is positively associated with civil servants' work results, like job satisfaction (Catherine 2018, Nhat Vuong et al. 2023). Intention to stay is another important factor in employee motivation (Škerháková, Korba et al. 2022). High turnover rates can negatively affect an organization's reputation, relationships with other institutions, and stakeholder relationships. Factors contributing to employee departure include incompatible culture, unsatisfactory relationships, unattractive financial remunerations, job stress, weak training and development programs, inadequate growth opportunities, lack of support from top management, and poor work-life balance. Job satisfaction is the feeling of pleasure, contentment and achievement employees experience from appraising their job. Research has shown that satisfied employees are more enthusiastic, exert extra effort, have higher organizational commitment, perform better, and

are more motivated than other employees. PSM was defined as an important factor that predicts job satisfaction, with studies showing that public service motivated employees were more satisfied than their colleagues with lower PSM levels (Inalhan et al. 2021). However, the strength of this relationship varies significantly between the key elements that constitute PSM.

PSM implies the extent to which civil servants are motivated by the sense of both duty and commitment to serve the public interest (Tu, Hsieh et al. 2023). Research indicates that PSM is a crucial strategy used by managers in the public sector to influence employee productivity at work. Research showed a strong association between PSM and employee performance within governmental organizations (Perry and Wise's, 1990; Schwarz et al. 2016). The authors proposed that the association between these two might be attributed to the viewpoint of those with PSM about the significance of their public employment. An individual ability to engage in what they consider to be meaningful work and to put their beliefs and principles into practice on a day-to-day basis should be positively associated with work performance. Several researchers have examined the relationship between these two factors (Campbell & Im 2016; Schott et al. 2015). It is clear from the theoretical underpinnings in the literature that the relationship between intention to stay and PSM has not been fully explored or reached theoretical saturation, especially when it comes to the complicated factors that influence intention to stay. Therefore, by outlining the linkages and connections that require more in-depth investigation, this paper seeks to develop a theoretical framework that will serve as a basis for future research.

2 PSM and Intention to Stay

Understanding the employee is the first step towards understanding their motivation. Public sector employees are essential to the organization that offers services to all communities. There are several reasons why employees prefer to work in governmental institutions. There are internal as well as external motivational forces that are employed. Comprehending the elements contributing to employee motivation is essential for managers as it helps them understand the data that drives their staff's enthusiasm (Shahda 2016). A manager using motives as a useful tool may therefore accomplish motivating subordinates to be productive in their role as public sector employees. Leaders significantly impact employee motivation.

PSM is a driving force that directly enhances the quality of services through job satisfaction (Nurung et al. 2019). Besides, several researchers proved that PSM, in general, directly and positively influences job satisfaction; however, the strength of this linkage varies between the dimensions of PSM. Levitats and Vigoda-Gadot (2017) proved that PSM is positively related to public employees' work outcomes.

2.1 Intention to Stay

When employees quit an organization is not only financially but also psychologically painful for both the employer and the employee. In addition to the loss of experienced and skilled employees who quit the organization, it also has a negative effect on the

reputation of the company, on its relationships with other institutions and with its stakeholders, especially when those who quit the organization cooperated and exchanged information with rival institutions (Ghosh et al. 2011). Productivity will be negatively affected whenever an employee leaves the organization because new employees need time to learn and understand the job. The loss of employees adds more costs to the organization because the firm loses human capital and relational capital while competitors will gain these assets. Organizations usually take time to fill all these gaps. Organizations, for example, invest more time and money on recruitment, selection, training and developing new incumbents. High turnover rates are not good for the reputation of any organization because successful organizations are the ones that recruit skilled employees and retain them along with creating a stable workforce (Ghosh et al. 2011).

There are several factors that explain why employees leave the organization, namely, incompatible culture, unsatisfactory relationships with colleagues, unattractive financial remunerations, job stress, weak T&D programs, inadequate growth opportunities, and low support from those at the upper echelon of the organization (Heather 2003; Herman 1999, Allen et al. 2003; Horwitz et al. 2003).

2.2 Job Satisfaction: As a Mediator

Broadly speaking, job satisfaction is described as the feeling of pleasure contentment and achievement that employees experience resulting from appraising one's job (Lock 1969). It represents the beliefs, and emotions that workers think about their work. While good and desired beliefs or feelings toward one's job are referred as work satisfaction, bad and undesired ones indicate job dissatisfaction. Work satisfaction also implies the degree to which employees are happy with the rewards they get out of their job (George & Jones 2008). Several researchers examined the importance of work satisfaction and its outcomes. Researchers were able to find that satisfied employees are usually more enthusiastic (Helmi & Abunar 2021), exert extra efforts on their job (Nurung et al. 2019), have higher organizational commitment (Homberg et al. 2015), perform better and tend to be more motivated than other employees (Helmi & Abunar 2021).

In recent years, several researchers have been interested in studying the association between PSM and job satisfaction (Choi and Chun 2018; Kjeldsen and Hanson 2018). PSM has been considered as a predictor of job satisfaction (Lu & Hung Chen 2022). Perry (1996), for instance, was among the first scholars to indicate that public service motivated workers were more satisfied than their colleagues with lower PSM levels. Similarly, other researchers found that PSM imposes direct and positive influences on work behaviors, including job satisfaction (Levitats & Vigadot-Gadot 2017; Chen et al. 2021). However, the strength of this relationship varies greatly between the four dimensions of PSM construct (Homberg et al. 2015).

Even though a number of researchers, as mentioned previously, hypothesize that PSM positively influences job satisfaction, other studies came out with mixed findings. For instance, Bright (2008) was among the first researchers to indicate that the association between PSM and job satisfaction is insignificant when considering P-O fit. Within the same context, Rayner et al. (2018) found that there is no remarkable association between PSM and job satisfaction among Australian council workers. Other studies

indicated that PSM was negatively linked to work satisfaction when P-O fit was considered. In other words, P-O fit was considered as the mediator between work satisfaction and PSM (Khuram et al. 2020). Likewise, Kim (2012) concluded that P-O fit played as the mediator between the fit mediated the relationship between PSM and both work satisfaction and organizational commitment among Korean civil servants. Finally, Kjeldsen and Andersen (2013) concluded that PSM had a positive association with job satisfaction only when workers view that their job benefits both the society and the community.

It is important to note that job satisfaction has been an important factor that strongly affected the intentions of employees to remain in their organization (Choi & Chiu 2017; Aydogdu & Asikgil 2011). Satisfied employees usually are the ones that have high desires to stay in the organization (Huang et al. 2017). Likewise, Markovits et al. (2007) asserted that job satisfaction is regarded as a powerful predictor to stay in the organization. Kim et al. (2021) stressed that organizations must know the real causes of job satisfaction and employee intention to stay in order to increase the retention of skilled and knowledgeable employees. Other studies highlighted the importance of training quality. In other words, training quality has indirect effect on intentions to stay mediated by job satisfaction (Chiang et al. 2005). Finally, Vadenabeele (2009) concluded that job satisfaction is a noticeable factor when studying the association between PSM and employee intention to stay. That is, public service motivated employees were more satisfied, which in turn, decreases their intentions to leave their organization.

3 Affective Commitment: Mediator

Affective commitment is regarded as an emotional attachment to one's institution; it represents a key element of organizational commitment. It represents the degree of attachment that the workers have toward their institution. This is usually represented in the form of feelings of love to one's institution which, in turn, leads to the willingness to stay on and be part of this organization (Amin et al. 2018).

Unlike other types of commitment, affective commitment is viewed as the most effective tool that measures organizational commitment (Allen & Myer 1990). Accordingly, employees who have strong emotional commitment to their organization work hard, put the interest of their company first, defend and stay in the organization even in hard times. Accordingly, affective commitment is a key element to the success and prosperity of the institution and to long term sustainability (Ardiyansyah & Afandi 2018). Moreover, they have high levels of job performance and exhibit strong emotional bond with their organization. Employees with high affective commitment always try to make meaningful contributions to their organizations. Affective commitment increases as long as the employees feel that their needs and expectations are met within their organization. Robbins & Judge (2007) claimed that affective commitment is found when employees feel that their ideals and views are in accordance with the company's mission and objectives.

Wood (2018) claimed that workers with high levels on affective commitment usually tend to work harder, help others and exert additional efforts apart from their official responsibilities. Demirtas & Akdogan (2015) declared that affective commitment is a strong bond to the organization; it represents the feeling of belonging to one's organization where employees feels that they are determined to serve their organization.

Accordingly, those with strong affective commitment are more loyal to their organization, and hence, tend to stay in the organization. They have a strong desire to stay in their institution and to help achieve its goals. Wasko and Faraj (2005) asserted that affective commitment is a predictor of Organization Citizenship Behavior (OCB). Hence, employees with strong affective commitment are more likely to remain in the organization and to resist change. Accordingly, it strengthens workforce stability and the quality of delivered services.

Kim (2006) also studied the association between the aforementioned variables. He concluded that these two were the main predictors of OCB. In other words, Korean civil servants that had high scores on PSM and affective commitment have had high levels of OCB than their colleagues with low PSM and affective commitment levels (Kim 2006). Rajagukguk and Desiana (2022) found this association to be mediated by work engagement. Other researchers believe that the association between the two was extremely weak. For instance, Augustina et al. (2021) showed that only two dimensions of PSM construct had significant influence on affective commitment, namely, compassion and commitment to the public interest.

Sun (2021) found that affective commitment has a joint reverse effect on the association between PSM and turnover intention. For instance, temporary Chinese civil servants with low scores on affective commitment and low levels of PSM had low intentions to stay in the public sector. Whereas, other employees with high affective commitment and high levels of PSM were more likely to have high intentions to stay in the Chinese public sector (Sun 2021).

Affective commitment has also played an important role when examining the association between work satisfaction and intentions to stay. For example, Kartika and Purba (2018) admitted that organizational commitment and normative commitment could partially be the mediators of the association between intentions to stay and work satisfaction. These two scholars found that only affective commitment was able to completely mediate this relationship among international school teachers.

Wombacher and Felfe (2017) identified that affective commitment had a negative effect on turnover intention, and consequently affectively committed preferred to remain in the same organization. In this context, Nazir et al. (2016) revealed that once employees' wants and expectations are fulfilled, then they will be more attached to their institution and are more likely to stay in it. Accordingly, Li et al. (2018) proved that there is a positive association between the aforementioned variables. Kim et al. (2015) stated that affectively committed civil servants, whose values and beliefs are met in the organization had higher scores on PSM than their colleagues. In other words, their high levels of affective commitment have strengthened their pro-social behaviors which, in turn, led them to be more motivated and to serve the public in an effective and efficient way. Other studies have suggested that PSM plays an important role in increasing employees' attachment and affective commitment to their organization, and, consequently, they remain in the same job and organization.

4 Conclusion

This research demonstrated the following: (1) employees' intentions to stay are positively and strongly associated with PSM; (2) employees' intentions to stay are also positively and strongly associated with job satisfaction and affective commitment; and (3) job satisfaction and affective commitment mediate the association between PSM and employees' intentions to stay.

This study sheds lights on the importance and practical value of PSM theory in NGOs. Knowing this importance, HR departments in local and international NGOs that operate in Lebanon should work to incorporate PSM in their staffing process through measuring and testing the potential candidates' PSM. For instance, tests and exams should detect and reveal the candidates' actual PSM. Besides, HR departments in NGOs should ensure that PSM is an essential part of training programs for new and existing employees and of performance appraisal systems.

4.1 Limitations and Future Research

This paper tried to find the theoretical association between PSM and intention to stay, while evidence that is more empirical is needed to validate the proposed connection. This paper provided a literature review to identify gaps in existing research and highlight the importance of further investigation in this area. Additionally, the paper suggests that future studies should employ rigorous methodologies to gather quantitative data and analyze it statistically for a more robust understanding of the relationship between the two variables. Secondly, this research adopted Perry's Western PSM scale. Hence, there is the need to formulate a new PSM scale that reflects the socio-cultural aspects of the Lebanese Arab society. In addition to the role of PSM in fostering a sense of purpose and fulfilment among public service employees, which in turn can contribute to their intention to stay in the organization?

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Leveraging Business Adaptability for Financial and Non-financial Performance in the COVID-19 Era: An Analysis of Micro, Small and Medium-Sized Enterprises in Saudi Arabia

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Abstract. The aim of the present study is to determine the impact of COVID-19 shocks, policy responses, business adaptability on the performance on Saudi Micro, Small, and Medium-Sized Enterprises. A quantitative approach was adopted using an online questionnaire survey from 380 MSMEs in Saudi Arabia. To accomplish the research aims, this study conducted a quantitative analysis of the data using structural equation modelling with partial least squares (PLS-SEM). The findings show that policy response is the sole significant predictor of business adaptability, whereas management/operational side shocks, demand side shocks, and supply side shocks have no significant effect on business adaptability. The findings further indicate that both management/operational and demand side shocks have a significant effect on financial performance, while policy responses and supply-side shocks have no discernible effect on financial performance. Only demand side shocks have a considerable impact on non-financial performance. However, policy response, management/operational side shocks, and supply side shocks all have a negligible effect on non-financial performance. In general, the findings of this study will assist the Saudi government and other policymakers in determining which types of MSME are most vulnerable and their expectations for assistance in coping with present and future problems created by the COVID-19 epidemic.

Keywords: COVID-19 · Demand shock · supply shock · business adaptability · financial and non-financial performance

1 Introduction

Similar to earlier pandemics and viral outbreaks, the Corona Virus Disease 2019 (COVID-19) caused devastation to several populations. Prolonged and severe pandemic circumstances have led to an increase in people's anxiety levels. Regarding the financial ramifications, the coronavirus pandemic has significantly impacted numerous economies. The COVID-19 pandemic has severely impacted small and local enterprises

in Saudi Arabia, leading to widespread unemployment and negatively affecting many people's ability to support themselves. Micro, small, and medium-sized firms (MSMEs) play a major role in driving economic growth, job creation, income generation, and innovation in most nations [1]. For example, in Saudi Arabia, MSMEs account for around 90% of all firms and 62% of all employment [2]. The development of MSME operators in Saudi Arabia has been found to be hampered by a number of issues, including a lack of funding, franchising, bureaucracy, an unfavorable business environment, a lack of ICT, inadequate finance alternatives, and a lack of entrepreneurial quality [3]. Due to the COVID-19 pandemic, which exacerbated the financial crisis and increased rates of unemployment and poverty, many of these firms were compelled to file for bankruptcy and close.

MSMEs are cognizant of a variety of issues, including those related to technology, training, business climate, supply chain, marketing, customers, and finances. The world has not spared Saudi Arabia from its effects. The International Monetary Fund (IMF) reports that the COVID-19 pandemic slowed down global economic growth in 2020 [4]. This suggests that many economies, including emerging economies, will probably continue to face economic difficulties in the wake of COVID-19, which could have a long-term impact on the MSME sector. The COVID-19 situation is severe, and if proper and prompt remedies are not implemented, poverty and civil unrest will intensify.

Few studies have looked at the financial and non-financial performance of MSMEs during COVID-19; many of the studies on this sector concentrated on the financial performance of small enterprises [5]. Therefore, the main goal of this study is to evaluate how MSMEs might improve their performance during pandemic such as the COVID-19 by utilizing business flexibility and policy response. This study looked at a variety of MSMEs-heavy industry types, including manufacturing, wholesale, retail, and services, in order to meet its research goal. The study will assist policymakers in creating the procedures, rules, and auxiliary plans needed to help MSMEs address the immediate and long-term problems brought on by the COVID-19 outbreak.

2 Literature Review

2.1 Demand and Supply Sides Impact on Business Adaptability

In order to sustain operations and guarantee a sustainable business, businesses need to establish strategic alliances with their supply chains, clients, the government, and other stakeholders [6]. In this sense, past economic downturns might provide valuable insights. The problem known as "failure of relationship" occurs when many buyer-supplier relationships in fiercely competitive and dynamic marketplaces, like grocery shopping, fall short of becoming more than transactional exchanges [7]. [7] found that these relationships are put to the test during a recession by analyzing buyer-supplier transactions in supermarket retail during the Greek economic crisis. Nevertheless, in times of crisis, mutually beneficial risk sharing and additional resources to maintain reliable supply networks contributed to the development of more robust bonds and commitments within buyer-supplier partnerships. Saudi Arabian food supply chains can benefit from understanding the need of robust cooperative buyer-supplier partnerships, even in the face of glaring market power inequalities. Strong partnerships enhance the robustness of the

supply chain. Suppliers are more inclined to “go the extra mile” in times of crisis, such as priority restocking, if they have established a cooperative, supportive relationship with their retail buyers [6]. In light of the aforementioned information, the following hypotheses were taken into consideration:

H1: The demand side shocks have significant negative influences on MSMEs’ business adaptability during the COVID-19 economic crisis in Saudi Arabia.

H2: The supply side shocks have significant negative influences on MSMEs’ business adaptability during the COVID-19 economic crisis in Saudi Arabia.

2.2 Management and Operational Sides Impact on Business Adaptability

The COVID-19 pandemic and its economic devastation have caused most top executive officers (CEOs) to reveal their plans to restructure their organizations through a strategic renewal process. They looked for a business turnaround plan to handle the revenue drop brought on by dwindling customer demand and rising operating costs. To recover revenue losses, a few CEOs also thought about switching from a strategy of product distinction to one of cost leadership. According to several CEOs, “financial sustainability” will be a major concern in the short- to medium-term [8]. In their long-term plans, some CEOs looked at creative ways to handle risk and uncertainty in addition to strategies for making up operating losses caused by sluggish customer demand. Due to the inconvenience brought on by the COVID-19 outbreak, businesses tracked and evaluated every one of their backup plans. Because of the high expense of having to modify their operational procedures and routines, this is why the government’s subsidies for similar situations will guarantee the survival of firms [8]. As a result, businesses focused more on increasing sales than on increasing profits, and when government policy permitted, they worked to postpone and lower taxes. In view of the discussion, the following hypothesis is presented:

H3: The management & operational side shocks have significant negative influences on MSMEs’ business adaptability during the COVID-19 economic crisis in Saudi Arabia.

2.3 Policy Initiatives’ Impacts on Business Adaptability

With a total estimated value of approximately SR 214 billion, the Saudi Arabian government has taken several measures during the coronavirus outbreak to aid its citizens, investors, and private sector companies [9]. The stimulus plans offered by the Saudi government had been utilized by numerous companies. Small enterprises are the target audience for this support [10]. The administration has approached the problem very forcefully right from the beginning [11]. King Salman ordered the government to distribute SR 9 billion (\$2.39 billion), or three months’ salary, to Saudi employees. A SAR 70 billion (\$18.7 billion, or 2.8 percent of GDP) private sector aid package was approved by the government on March 20. The package stopped paying taxes, fees, and other commitments to the government and allowed access to funding through the National Development Fund to guarantee private sector liquidity.

The additional measures include giving private sector workers unemployment insurance (SANED), removing recruiting-related fines, lifting the temporary closure of private sector facilities to allow them to reopen, deferring the payment of valuation taxes, and

granting business owners a two-month extension to file their Zakat declarations, excise taxes, and value-added taxes. The Saudi government's efforts to rescue the private sector have cost over 51 billion riyals (\$13.60 billion), according to [12]. Most government programs are designed to assist small businesses. Small businesses benefited from the recovery program at a rate of 22%, the SANED initiative at a rate of 24.3 percent, and other initiatives at a rate of 53.7 percent. For a period of three months, the Saudi Arabian government paid 60% of the salaries of employees in the private sector [12]. Given the aforementioned, the following hypothesis is put out:

H4: The policy initiatives have significant positive influences on MSMEs' business adaptability during the COVID-19 economic crisis in Saudi Arabia.

2.4 Adaptability and Performance of Business

MSMEs can withstand considerable turbulence and crises because of their high degree of adaptation and flexibility [12]. However, a growing number of business investors "have little or no understanding of how things work," making survival increasingly difficult [14]. Prior research indicates that MSMEs' subpar performance stems from their improper application of MAPs [15]. In difficult circumstances, they are prone to fragility, which makes it harder for them to survive. When creating plans for long-term operational activities, prospecting for new prospects might be difficult [16]. If MSMEs have the time and space to modify their business practices, they can weather the COVID-19 and related challenges. MSMEs have the chance to grow or modify their operations, for instance by improving the quality of their goods and services or creating new strategies for attracting new customers, as large-scale global firm executives are also having challenges [17]. The fastest-recovering business categories that can support the global economic recovery are smaller ones [18]. Although it necessitates the creation of a new workforce, tax stability, risk diversification, and the use of cutting-edge concepts and technologies, economic recovery can happen quickly [19].

Consequently, MSMEs need to use a range of information and knowledge strategies to ensure their survival and continued growth. Innovation or expansion are the only ways to get out of this predicament [20]. Combating the COVID-19 epidemic requires an innovative strategy that is driven by technology [16]. This implies that a company's long-term success depends on its technological innovation. Therefore, in the case of a pandemic, MSMEs need to adjust to their current environment by implementing a technology-based strategy. Following COVID-19, a high market share requires the use of technology. Given these discussions, the following hypotheses are taken into consideration:

H5: The MSMEs' business adaptability has significant positive impacts on their financial performances during the COVID-19 economic crisis in Saudi Arabia.

H6: The MSMEs' business adaptability has significant positive impacts on their non-financial performances during the COVID-19 economic crisis in Saudi Arabia.

3 Methodology

3.1 Data Collection

Due to the constraints imposed by COVID-19 and the social distancing protocol, an online survey was considered the most effective means of gathering data during the period of this study. 380 samples were collected from different parts of Saudi Arabia, such as Riyadh, Jeddah, Taif, Madina, and the Eastern province, using convenient random sampling. For help with the online data gathering, the Chambers of Commerce, the Saudi Central Bank (SAMA), and the General Authority for Small and Medium-Sized Enterprises (Monsha'at) were consulted. The agencies were provided with a link to an online questionnaire that included questions about the performance of Saudi Arabia's micro, small, and medium-sized businesses during the COVID-19 pandemic. A 5-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5), was used to evaluate each construct. It has been discovered that this range of choices is quite valid and dependable for raising the level of consistency in scale measuring [21]. The timeframe of data collection was May 2021–July 2021.

4 Result and Analysis

4.1 Measurement Model

The constructs' internal consistency, discriminant validity, convergent validity, and reliability were used to evaluate the measurement model. All of the composite reliability and Cronbach's Alpha values were above 0.70 [22], indicating that the measurements had adequate reliability. Similarly, this study's convergent validity was reached when the indicator loadings surpassed the 0.50 cutoff, the composite reliability was greater than 0.70, and the AVE was greater than 0.50. [21]. DC4, MC4, FP2, and FP3 were the three elements removed in order to achieve the required convergent validity.

Discriminant validity was assessed using the heterotrait-monotrait (HTMT) ratio and the Fornell & Larcker criterion [23]. The outcome shows that the diagonal values are greater than the off-diagonal values (Fornell & Larcker criterion) and that the correlation between all components is less than 0.90 (HTMT). These results supported the admissible discriminant validity evidence. Furthermore, none of the predictor constructs had variance inflation factors (VIF) values greater than the benchmark value [21], suggesting that there were no concerns about multicollinearity across the predictor constructs.

4.2 Structural Model: Hypotheses Testing

The hypotheses of this study were examined using a bootstrap re-sample technique with a 5000-iteration sub-sample. Table 1 and Fig. 1 provide a summary of the correlations. Both management/operational and demand side shocks have a significant relationship with financial performance, validating the hypotheses. Policy response and supply side shocks, on the other hand, have no meaningful effect on financial performance; only demand side shocks have a substantial effect on non-financial performance, validating the hypothesis. Policy response and supply side shocks, on the other hand, have no

meaningful effect on financial performance. Policy response, management/operational side shocks, and supply side shocks, on the other hand, do not have a strong relationship with non-financial performance. Furthermore, the data indicates that policy response is the only significant predictor of business adaptation, implying that the hypothesis was supported. Meanwhile, management/operational shocks, demand side shocks, and supply side shocks have little effect on company adaptability. Furthermore, two mediation hypotheses were adequately supported: business adaptability as a mediator between policy response and financial and non-financial performance, and business adaptability as a mediator between policy response and financial and non-financial performance. However, none of the six mediation hypotheses (business adaptability as a mediator between three shocks and financial and non-financial performance) were significant, and so were not supported. Finally, firm size was added as a control variable; as expected, it had no significant relationship with financial and non-financial performance.

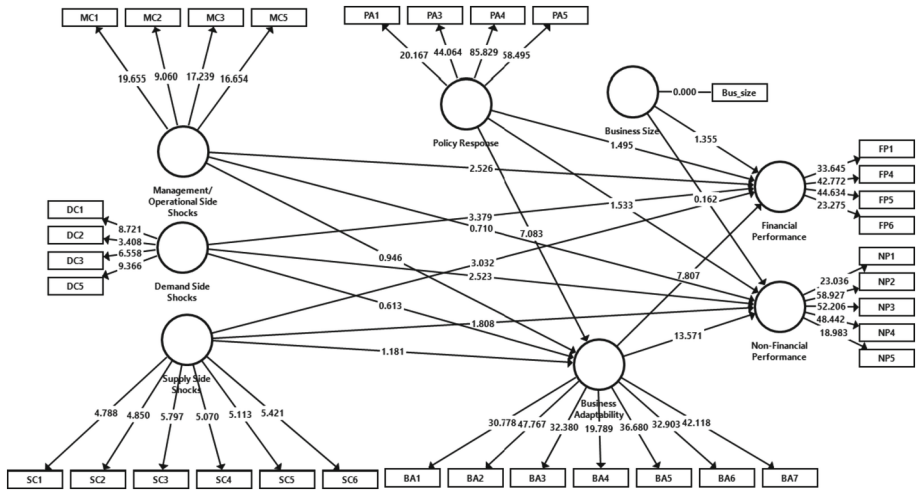


Fig. 1. Structural Model

The next step was to determine the prediction capacity of the sample (coefficient of determination, R^2). The results show that 28.4% of the variance in financial performance can be explained by the exogenous factors (supply side shocks, management/operational shocks, demand side shocks, policy response, and business adaptation). Furthermore, data show that 37% of the variance in non-financial performance can be attributed to exogenous variables, including supply side shocks, management/operational shocks, demand side shocks, policy response, and company adaptability. Moreover, 15% of the variation in business adaptability can be attributed to exogenous factors, including supply side shocks, management/operational shocks, demand side shocks, and policy response. Finally, the standardized root mean square residual (SRMR) was used to assess the model fit. This study's SRMR of 0.067, which is less than 0.08 [24], shows that the composite factor model adequately fits the data.

Table 1. Result of Hypothesis Testing

Relationships	Std. Beta	Std. Error	t-values	p-values	Inner VIF	R ²	DS
PR → FP	0.068	0.046	1.495	0.068	1.156		NS
MSS → FP	-0.194	0.077	2.526	0.006	1.785		S
DSS → FP	-0.218	0.065	3.379	0.000	1.735		S
SSS → FP	0.239	0.079	3.032	0.001	1.156	0.284	NS
PR → NFP	0.067	0.044	1.533	0.063	1.156		NS
MSS → NFP	-0.039	0.055	0.710	0.239	1.785		NS
DSS → NFP	-0.149	0.059	2.523	0.006	1.735		S
SSS → NFP	0.134	0.074	1.808	0.036	1.967	0.369	NS
PR → BA	0.356	0.050	7.083	0.000	1.002		S
MSS → BA	-0.071	0.076	0.946	0.172	1.766		NS
DSS → BA	-0.048	0.078	0.613	0.270	1.732		NS
SSS → BA	-0.089	0.075	1.181	0.119	1.958	0.155	NS
BA → FP	0.400	0.051	7.807	0.000	1.209		S
BA → NFP	0.563	0.042	13.571	0.000	1.209		S
BS → FP	0.065	0.048	1.355	0.088	1.061		NS
BS → NFP	-0.007	0.043	0.162	0.436	1.061		NS
PR → BA → FP	0.142	0.026	5.449	0.000			S
MSS → BA → NFP	-0.040	0.042	0.967	0.334			NS
DSS → BA → FP	-0.019	0.032	0.602	0.547			NS
SSS → BA → NFP	-0.050	0.040	1.242	0.215			NS
PR → BA → NFP	0.200	0.031	6.523	0.000			S
MSS → BA → FP	-0.029	0.029	0.971	0.332			NS
DSS → BA → NFP	-0.027	0.044	0.608	0.543			NS
SSS → BA → FP	-0.036	0.029	1.229	0.220			NS

Note: BA – Business Adaptability, BS = Business size, DSS - Demand Side Shocks, MSS – Management/operational Side Shocks, SSS - Supply Side Shocks, FP – Financial Performance, NFP – Non-Financial Performance, PR - Policy Response, S = Supported, NS = Not supported, DS = Decision

5 Discussion

Overall, the data estimation results show a strong correlation between demand side shocks and financial performance as well as management/operational side shocks. Supply-side shocks and policy reactions, however, have no appreciable impact on financial performance. The only factors that significantly affect non-financial performance

are demand side shocks. On the other hand, the impact of supply side shocks, management/operational side shocks, and policy response on non-financial performance is minimal. Furthermore, the analysis indicates that supply side shocks, demand side shocks, and management/operational side shocks have no discernible impact on business adaptation, leaving policy reaction as the only significant predictor of business adaptability. Furthermore, the findings imply that the two mediation hypotheses—business adaptability as a mediator between policy response and financial and non-financial performance—were sufficiently supported. The six mediation hypotheses, which proposed the role of business flexibility as a mediator between three shocks and financial and non-financial performance, were not supported by any meaningful evidence and were therefore not validated. Finally, firm size was added as a control variable; naturally, there is no substantial correlation between it and both financial and non-financial performance.

The study of [1] corroborates that the policy initiatives are successful in decreasing financial consequences. While government support initiatives and policies helped MSMEs in Saudi Arabia during the COVID-19 pandemic, most of them were able to stay in business because of other funding sources, cost-cutting measures, and ongoing demand for their products and services. Therefore, as [11] also noted, while MSMEs-focused policies and actions are somewhat successful during the COVID-19 outbreak, they are insufficient. Future policy planning should therefore focus on this issue.

The Saudi government should create a Strategic Data Collection Service (SDCS) for MSMEs data in addition to the necessary fiscal and monetary policies. This will help regulators like Monsha'at, the General Authority for Statistics, and banks better understand the industry and pinpoint the sectors that will be most impacted so that the most effective policies can be created. Similarly, the government needs to guarantee that MSMEs may access and benefit from science, technology, and innovation projects. Long-term funding of important public and private sector institutions should be facilitated by the government through the implementation of appropriate policies, such as the creation of the Monsha'at Bank and the dissemination of information about available business incentives through conferences, social media, and support networks. Additionally, different kinds of firms should use different kinds of innovative approaches to handle any turbulence. A bottom-up approach to policymaking that promotes stakeholder participation, networking, alliance creation, and cooperation with legislators and other pertinent organizations is required to develop sustainable strategies to address these issues.

6 Conclusion

The aim of this research was to ascertain how the performance of Saudi Micro, Small, and Medium-Sized Enterprises was affected by COVID-19 shocks, policy responses, and business adaptation. The conclusions have significant implications for relevant bodies in Saudi Arabia. Overall, the study's findings will help the Saudi government and other decision-makers identify the MSME categories most at risk and what kind of support they anticipate receiving to deal with the COVID-19 pandemic's current and future issues. In addition, this research will help policymakers create procedures, guidelines, and MSMEs-friendly tactics that will advance or, at the very least, preserve the Saudi

Arabian economy. In addition, it will add a great deal to the corpus of knowledge on MSMEs that are vulnerable to the COVID-19 pandemic and how they should react to it.

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A Literature Review on Incremental Innovations in Small and Medium-Sized Enterprises: Bridging Knowledge Gaps and Future Research Avenues

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Abstract. This systematic review delves into the significance of incremental innovations in Small and Medium-Sized Enterprises (SMEs). SMEs are vital drivers of economic growth, and incremental innovation plays a pivotal role in their development. Incremental innovations, characterized by small, gradual improvements to existing products and processes, are found to be instrumental in the growth and sustainability of SMEs. Despite their importance, there has been limited research on these innovations. Through a comprehensive analysis of relevant studies, this review investigates the types, determinants, outcomes, and challenges of incremental innovations in SMEs. This article identifies avenues for future research on incremental innovation in SMEs, focusing on management challenges, knowledge management strategies, external factors, and the relationship with other organizational processes. It aims to provide actionable insights for researchers, managers, and policymakers to promote incremental innovation in SMEs, contributing to knowledge on innovation in the SME context and fostering economic growth.

Keywords: Incremental Innovations · Characteristics · Types · Performance · Challenges · SMEs

1 Introduction

Innovation is a critical driver of success and growth for small and medium-sized enterprises (SMEs). While radical innovations often receive more attention, incremental innovations play a significant role in the development and sustainability of SMEs (Oduro & Nyarku, 2018). Incremental innovations involve small, gradual improvements made to existing products, processes, or services (Bos-Brouwers, 2010). These innovations hold particular relevance for SMEs due to their limited resources and capabilities (Oduro & Nyarku, 2018).

This systematic literature review aims to comprehensively explore the topic of incremental innovations in SMEs. Through the synthesis of relevant research articles, this review will provide a thorough understanding of the current knowledge and insights in this area. The review will primarily focus on identifying the types of incremental innovations pursued by SMEs, the factors influencing their adoption, the performance outcomes associated with these innovations, and the challenges faced by SMEs in managing and implementing incremental innovations.

To execute this review, we implemented a rigorous search strategy to identify high-quality and reputable sources. The search encompassed databases including Scopus, Web of Science, and Google Scholar, utilizing keywords such as “incremental innovation,” “SMEs,” and “performance.” The criteria for article inclusion encompassed relevance to the topic, publication in esteemed journals, and empirical or theoretical contributions that enhance our comprehension of incremental innovations in SMEs.

The chosen articles encompass a diverse array of topics pertinent to incremental innovations in SMEs. Some articles delve into specific categories of incremental innovations pursued by SMEs, including product, process, or service innovations (Poorkavoos et al., 2016). Others scrutinize the factors influencing the adoption and execution of incremental innovations, encompassing aspects like resource scarcity and knowledge management strategies (Hayaeian et al., 2022; Woschke et al., 2017). Furthermore, the review features articles that investigate the performance ramifications of incremental innovations, including their impact on firm performance and competitiveness (Wang, 2019; Oke et al., 2007). Lastly, the selected articles address the challenges confronted by SMEs in the management and implementation of incremental innovations (Pinget et al., 2015).

Through the synthesis of the findings within these articles, this systematic literature review is poised to offer valuable insights into the present state of knowledge concerning incremental innovations in SMEs. This review seeks to enhance the current literature by identifying research gaps and proposing potential directions for future studies. Additionally, the conclusions drawn from this review bear practical significance for SME managers and policymakers. It equips them with evidence-based recommendations for the cultivation and effective management of incremental innovations in SMEs.

2 Characteristics of Incremental Innovations in SMEs

Incremental innovation takes precedence for many SMEs due to their inherent resource constraints and competencies (Oduro & Nyarku, 2018). This approach demands fewer novel resources and can be realized through incremental enhancements to existing products, processes, or services (Oduro & Nyarku, 2018). While SMEs may engage in both incremental and radical innovation, their emphasis on incremental innovation is notably higher (Hayaeian et al., 2022). The preference for incremental innovation arises from its efficiency in utilizing existing resources and competencies, allowing SMEs to enhance product quality, reduce production costs, expand market share, and bolster profitability (Du, 2021).

Laforet and Tann (2006) underscore that SMEs follow a path of incremental innovation, generating cumulative and beneficial effects on their business. This observation

aligns with the findings of Baregheh et al. (2012), reaffirming the past literature's consensus on the incremental innovation proclivity of SMEs. Moreover, SMEs oriented toward growth often channel their development efforts into incremental innovations (Woschke et al., 2017).

SMEs exhibit a predilection for incremental innovations, as these allow them to refine pre-existing products, services, or technologies while reinforcing the potential of established designs and technologies (Subramaniam & Youndt, 2005). Additionally, SMEs aspiring to achieve high performance in incremental innovation should implement substantial formalization and integrate marketing with research and development (Pullen et al., 2009). Collaborative relationships between SMEs, their competitors, suppliers, and customers also encourage incremental product innovation (Lacam, 2020).

It is worth noting that SMEs tend to prioritize incremental innovations over radical ones and exhibit a stronger inclination toward product innovation rather than process and service innovation (Baregheh et al., 2012). However, there are arguments suggesting that SMEs might emphasize radical innovation due to its potential for increased revenue and performance enhancement (Saridakis et al., 2019). The extent of innovation in SMEs is significantly influenced by the characteristics of the markets in which they are situated (Jusufi et al., 2020).

3 Types of Incremental Innovations in SMEs

The analysis of the selected references reveals several types of incremental innovations in SMEs. These types can be categorized into different dimensions, including technological innovation, product innovation, and open innovation.

3.1 Technological Innovation

Technological innovation serves as a primary driver of incremental innovation within SMEs. This process involves the adoption and implementation of novel technologies aimed at enhancing existing products, processes, or services. According to Wang (2019), technological innovation significantly correlates with firm performance in SMEs, empowering them to elevate competitiveness and adapt to evolving market dynamics.

Oduro and Nyarku (2018) contend that incremental innovation, including technological innovation, is well-suited for SMEs with limited resources, as it demands fewer resources and competencies. SMEs leverage technological innovation to reduce costs, optimize efficiency, and bolster their competitive standing (Jusufi et al., 2020). They may employ supply-side strategies to bolster technology access and augment their innovation capabilities (Kithinji & Nyaribo, 2022).

3.2 Product Innovation

Product innovation constitutes another pivotal category of incremental innovation within SMEs. This encompasses the enhancement of existing products or the introduction of novel variations to address customer needs and preferences (Jusufi et al., 2020). Research

by Chetty and Stangl (2010) underscores that SMEs primarily collaborate with customers, yielding a profusion of incremental product innovations. Lacam (2020) further posits that partnerships between SMEs and their competitors, suppliers, and customers stimulate incremental product innovation.

SMEs actively pursue product innovation to stimulate demand and augment profitability (Jusufi et al., 2020). Incremental product innovation specifically involves minor enhancements or modifications to existing products (Salavou & Lioukas, 2003). SMEs may engage in inbound open innovation initiatives, searching for new technologies and ideas within the confines of their industry (Parida et al., 2012).

3.3 Process Innovation

Process innovation denotes the integration of novel or refined procedures within an organization to heighten efficiency, curtail expenses, and elevate quality (Oke et al., 2007). SMEs routinely embrace process innovation as a vehicle to optimize their functions and secure a competitive edge (Baregheh et al., 2012). This innovation category encompasses the assimilation of fresh technologies, the restructuring of workflows, or the introduction of innovative production methodologies (Oke et al., 2007). SMEs may adopt methodologies such as lean manufacturing, automation, or digitalization to refine their operations and bolster productivity (Harris et al., 2013). Incremental process innovation, by extension, is oriented towards the achievement of gradual enhancements in prevailing processes (Woschke et al., 2017).

Emerging evidence underscores that SMEs in a range of sectors, including the food industry, actively participate in process innovation endeavors (Baregheh et al., 2012). For instance, an investigation into SMEs within the food sector elucidates their involvement in a spectrum of innovation types, with a notable emphasis on process innovation (Baregheh et al., 2012). This underscores the pivotal role of process innovation in heightening the competitiveness and efficacy of SMEs spanning diverse industries.

3.4 Managerial Innovation

Managerial innovation encompasses the assimilation of fresh management practices, strategies, or organizational frameworks designed to elevate performance and competitiveness (Auken et al., 2008). SMEs may incorporate novel management methodologies, such as total quality management or agile project management, with the aim of optimizing their operational efficiency and innovation potential (Auken et al., 2008).

Boubakary et al. (2021) underscore the pivotal role of managerial innovation as a competitive strategy within the SME landscape. Managerial innovation revolves around the integration of pioneering management practices, techniques, or paradigms engineered to augment the comprehensive efficiency and output of SMEs. This may encompass the implementation of novel organizational structures, enhancements to decision-making procedures, or the adoption of innovative leadership approaches.

3.5 Marketing Innovation

Marketing innovation encompasses the formulation of pioneering marketing strategies, channels, or methodologies tailored to connect with and engage customers (Oduro &

Nyarku, 2018). SMEs may choose to implement digital marketing techniques, leverage social media marketing, or embrace personalized marketing approaches in order to target specific customer segments and expand their market presence (Oduro & Nyarku, 2018).

In the realm of marketing, prior studies have underscored the significance of innovative marketing strategies for SMEs. Research reveals that the distinctiveness of an SME's selling proposition serves as a noteworthy component of innovative marketing (O'Dwyer et al., 2009). Nonetheless, SMEs often prioritize incremental and continuous innovation, concentrating on facets of novelty, distinctiveness, and unconventionality that align with their customers' preferences (O'Dwyer et al., 2009). These incremental marketing innovations can significantly contribute to the overall performance and competitiveness of SMEs (Medrano and Olarte-Pascual, 2016).

4 Performance and Benefits of Incremental Innovations in SMEs

Incremental innovations empower SMEs to enhance their performance across several dimensions. Firstly, they aid in improving product quality, allowing SMEs to more effectively meet customer demands and gain a competitive edge by making small enhancements to existing products (Du, 2021). Secondly, incremental innovations enable SMEs to reduce production costs. By optimizing processes and implementing gradual changes, SMEs can reduce waste, enhance efficiency, and achieve cost savings (Wang, 2019). Thirdly, these innovations assist SMEs in expanding their market share. By continuously refining their products and services, SMEs can attract more customers and strengthen their presence in the market (Du, 2021).

Incremental innovation can confer competitive advantages upon SMEs by enhancing efficiency (Brown et al., 2022). It enables SMEs to make gradual improvements to their products, processes, or services, resulting in increased customer satisfaction and loyalty (Brown et al., 2022). Moreover, incremental innovation allows SMEs to adapt to evolving market demands and maintain relevance in highly competitive industries (O'Dwyer et al., 2009). O'Dwyer et al. (2009) underscore that most SMEs effectively engage in incremental innovation, which has a cumulative and positive impact on their business. Finally, incremental innovations contribute to the overall profitability of SMEs. By enhancing product quality, reducing costs, and expanding market share, SMEs can generate higher revenues and improve their financial performance (Du, 2021).

Incremental innovations offer several advantages to SMEs. Firstly, they require fewer new resources and competencies compared to radical innovations. This is particularly advantageous for SMEs with limited resources, as they can prioritize incremental innovations to survive and evolve into larger enterprises (Oduro & Nyarku, 2018). Secondly, incremental innovations harmonize with and build upon the existing firm structure. Unlike radical innovations that may disrupt the organization, incremental innovations can be seamlessly integrated into the existing processes and systems of SMEs (Carayannopoulos, 2017). This allows SMEs to leverage their current capabilities and knowledge to drive innovation and achieve sustainable growth. Thirdly, incremental innovations help SMEs reduce risk. SMEs often possess fewer capacities and less product diversification compared to larger competitors. By concentrating on incremental innovations, SMEs can mitigate risks and ensure a steady and controlled pace of innovation

(Woschke et al., 2017). Finally, incremental innovations contribute to the development of a learning organization. Through continuous improvement and small-scale innovations, SMEs can nurture a culture of innovation and learning, thereby enhancing their long-term competitiveness (Li et al., 2008).

5 Factors Influencing Performance and Benefits of Incremental Innovations in SMEs

Numerous factors influence the performance and advantages of incremental innovations in SMEs. One key factor impacting incremental innovation performance in SMEs is their knowledge accumulation capabilities. Forés and Camisón (2016) discovered a positive relationship between organizational size and incremental technological innovation performance. This implies that larger SMEs, with greater absorptive capacity and knowledge management capabilities, are more likely to achieve superior performance in incremental innovations.

Additionally, the knowledge base and knowledge heterogeneity significantly contribute to driving incremental innovation in SMEs. SMEs equipped with a robust knowledge base and diverse knowledge sources are more inclined to engage in incremental innovations and attain superior performance outcomes (Du, 2021).

Resource scarcity is another variable that can affect the performance of incremental innovations in SMEs. Woschke et al. (2017) suggest that while resource scarcity may not universally benefit innovation performance, financial resource scarcity can influence incremental innovation performance. This suggests that SMEs facing financial constraints may be more motivated to pursue incremental innovations as a means of optimizing their limited resources.

Market orientation and customer focus also play pivotal roles in the performance of incremental innovations in SMEs. SMEs with a deep understanding of customer needs and preferences can develop incremental innovations that align with market demands, resulting in improved performance (Li et al., 2008). Kocak et al. (2017) observed that both entrepreneurial orientation (EO) and market orientation (MO) positively impact incremental innovation in SMEs. This indicates that SMEs that prioritize customer focus and market-driven approaches are more likely to engage in incremental innovations to meet the evolving needs and preferences of their target market.

Collaboration and networking are essential for SMEs to leverage external knowledge and resources. Collaborative endeavors with other firms, research institutions, and industry associations can enhance the effectiveness of incremental innovations and contribute to improved performance (González-Benito et al., 2016). The depth of collaboration is another factor influencing the performance of incremental innovations in SMEs. Ali et al. (2020) suggest that contextual factors, such as the depth of collaboration, can moderate the relationship between innovation capabilities and SMEs' performance. This implies that SMEs that engage in deep and meaningful collaborations with external partners, such as suppliers, customers, and research institutions, are more likely to achieve better performance outcomes in their incremental innovation efforts.

External factors, such as extensive external links, technology networks, and external agencies, can also influence the performance of incremental innovations in SMEs. Choi

and Lim (2017) highlight the importance of socially specified, extra-organizational factors in shaping innovation performance in SMEs. These external factors provide SMEs with access to valuable resources, knowledge, and expertise that can support and enhance their incremental innovation efforts.

Innovation ambidexterity, which refers to the ability to simultaneously pursue both incremental and radical innovations, is another factor influencing the performance of incremental innovations in SMEs. Uduma and Wali (2016) found that incremental innovation has a significant moderating effect on the link between the depth of collaboration and SMEs' product performance. This suggests that SMEs that effectively balance incremental and radical innovation activities are more likely to achieve better performance outcomes.

The presence of intellectual capital (IC) within SMEs can also influence the performance of incremental innovations. Hayaian et al. (2022) discovered that IC significantly and positively affects radical innovation more than incremental innovation in SMEs. This implies that SMEs with a strong foundation of intellectual capital, including tacit knowledge and expertise, are better positioned to drive radical innovations but may still benefit from incremental innovations to enhance their overall performance.

Furthermore, access to funding and financial resources is crucial for SMEs to invest in incremental innovations. Adequate funding enables SMEs to develop and implement incremental innovations, leading to improved performance and competitiveness (Harel et al., 2020).

6 Management Challenges of Incremental Innovations in SMEs

While incremental innovation offers numerous benefits, SMEs also face management challenges in implementing and sustaining such innovations. One of the key challenges faced by SMEs in managing incremental innovations is their limited resources and restricted methodological knowledge compared to larger companies (Şahin et al., 2019). SMEs often have fewer financial and human resources available for innovation activities, making it difficult to invest in research and development or hire specialized personnel (Ndzana et al., 2021). This resource constraint can hinder the implementation and scaling of incremental innovations, as SMEs may struggle to allocate sufficient funds and manpower to support these initiatives (Woschke et al., 2017). Additionally, SMEs may lack the methodological knowledge and expertise required to effectively manage and execute incremental innovation projects (Şahin et al., 2019). This knowledge gap can result in suboptimal implementation and limited success in leveraging incremental innovations for business growth.

SMEs tend to be more risk-averse compared to larger companies, which can influence their approach to innovation (Woschke et al., 2017). Due to their limited capacities and lower product diversification, SMEs often prioritize incremental innovations over radical innovations (Woschke et al., 2017). Incremental innovations are perceived as lower-risk endeavors that allow SMEs to make gradual improvements to existing products or processes without disrupting their core operations (Woschke et al., 2017). By focusing on incremental innovations, SMEs can mitigate the risks associated with radical innovations, which require significant investments and may have uncertain outcomes

(Salavou & Lioukas, 2003). However, this risk aversion can also limit the potential impact of incremental innovations, as SMEs may miss out on opportunities for disruptive growth and market expansion.

The presence of an innovation-supportive culture and management commitment is crucial for the successful implementation of incremental innovations in SMEs (Madrid-Guijarro et al., 2009). However, SMEs often face barriers in developing and fostering an innovation culture within their organizations (Madrid-Guijarro et al., 2009). Weak management commitment and a lack of organizational support for innovation have been identified as significant barriers to innovation among SMEs (Madrid-Guijarro et al., 2009). Without a strong commitment from top management, SMEs may struggle to create an environment that encourages and rewards innovation, hindering the adoption and implementation of incremental innovations (Madrid-Guijarro et al., 2009). Overcoming this challenge requires SMEs to prioritize innovation as a strategic objective and foster a culture that values and supports continuous improvement and innovation.

SMEs often encounter challenges in accessing the information, resources, and support systems necessary for successful incremental innovation (Demirbaş et al., 2011). External barriers, such as limited access to technological information, institutional finance, and skilled personnel, can impede SMEs' ability to identify, evaluate, and access the resources needed for incremental innovation (Demirbaş et al., 2011). Insufficient support systems and low tax incentives further exacerbate these challenges (Ndzana et al., 2021). To address these barriers, SMEs need to establish networks and collaborations with external partners, such as research institutions, industry associations, and government agencies, to gain access to knowledge, funding, and expertise (Demirbaş et al., 2011). Building strong relationships with suppliers, customers, and other stakeholders can also provide SMEs with valuable insights and resources for incremental innovation.

Management challenges in incremental innovations for SMEs arise due to various factors. One challenge is the organizational and cultural issues that SMEs face when implementing open innovation practices (Santoro et al., 2019). These issues include the division of tasks and responsibility, the balance between innovation and day-to-day management tasks, communication problems within and between organizations, and the lack of time and resources (Santoro et al., 2019). Additionally, resource scarcity in SMEs can affect their ability to engage in incremental innovations (Woschke et al., 2017). SMEs often have limited capacities and less product diversification compared to larger competitors, leading them to focus on incremental innovations as a lower-risk strategy (Woschke et al., 2017).

Furthermore, integrating external research activities with in-house research is crucial for SMEs to facilitate open innovation processes and knowledge absorption (Agostini et al., 2017). However, changing the organizational structure and culture of SMEs to support open innovation can be time-consuming and challenging (Agostini et al., 2017). In terms of internationalization, SMEs tend to focus more on radical innovation rather than incremental innovation, as the former generates higher revenue and enhances performance (Saridakis et al., 2019).

Financial instability, financial loan constraints, lack of innovation and creativity, regulatory licenses and taxes, increased production and manufacturing costs, poor managerial skills, and issues regarding employees' rights are identified as key challenges

hindering the success of SMEs in developing countries (Andalib & Halim, 2019). Moreover, knowledge plays a significant role in incremental innovation in SMEs, as it enables firms to improve product quality, cut production costs, boost market share, and increase profitability (Du, 2021).

Incremental innovation propensity compels SMEs to seek innovative ways to survive (Oduro & Nyarku, 2018). However, challenges such as a lack of appetite for innovation, weaknesses in leadership, and gaps in technical skills and managerial competencies can hinder effective innovation in SMEs (Ngibe & Lekhanya, 2019). To address these challenges, managers need to effectively balance exploitative and exploratory activities, as this can lead to both short-term profit and long-term success (Lin et al., 2017). Additionally, knowledge sharing and the effective management of intellectual capital are related to improved product/service quality, timely introduction of new products/services, and greater customer responsiveness, enhancing firm performance (Oliveira et al., 2020).

7 Conclusion

Incremental innovation plays a crucial role in the growth and development of small and medium-sized enterprises (SMEs) (Oduro & Nyarku, 2018). While some studies have focused on understanding the innovation performance of SMEs, there is a lack of specific research on incremental innovation in SMEs, including its types, performance, and management challenges (Oduro & Nyarku, 2018). Incremental innovation refers to small improvements or modifications made to existing products, processes, or services, which can lead to increased efficiency and competitive advantages for SMEs (Brown et al., 2022). However, it is important to note that radical innovation, which involves significant and disruptive changes, can also contribute to substantial improvements in growth and returns for SMEs (Brown et al., 2022).

One avenue for future research on incremental innovations in SMEs is to explore the management challenges associated with these types of innovations. The management challenges faced by SMEs in implementing and managing incremental innovations can vary depending on factors such as industry, organizational culture, and resource availability (Baregheh et al., 2012). For example, resource scarcity has been found to have an impact on the types of innovations pursued by SMEs, with growth-oriented SMEs tending to concentrate their development activities on incremental innovations (Woschke et al., 2017). Additionally, the collaboration between SMEs and their competitors, suppliers, and customers has been shown to favor incremental product innovation (Lacam, 2020).

Another area of research could focus on the role of knowledge management strategies in facilitating incremental innovation in SMEs. Knowledge management plays a crucial role in the innovation process, including the identification, acquisition, and sharing of knowledge within SMEs (Mohannak, 2014). Understanding how knowledge management strategies can support and enhance incremental innovation in SMEs can provide valuable insights for managers and policymakers. For example, the impact of knowledge management strategies on the relationship between intellectual capital and innovation in SMEs has been studied, highlighting the importance of specific characteristics of SMEs' intellectual capital sources for incremental innovation (Hayaieian et al., 2022).

Furthermore, exploring the impact of external factors, such as the region or industry in which SMEs operate, on incremental innovation can provide valuable insights. According to the industrial district approach, SMEs can be highly innovative in an incremental way if they can benefit from trust-based local and regional networks and common institutions in local production systems (Tödtling & Kaufmann, 2001). Understanding how regional factors and industry characteristics influence the propensity and performance of incremental innovation in SMEs can help identify strategies and policies to support and promote such innovations.

In addition to addressing management challenges and external factors, it is essential to consider the relationship between incremental innovation and various organizational processes and strategies. For instance, research has explored the connection between incremental innovation and internationalization, revealing that SMEs often lean more toward radical innovation due to its potential for high revenue generation (Saridakis et al., 2019). Collaborative relationships, particularly with customers, have been shown to foster a wealth of incremental innovations in SMEs (Chetty & Stangl, 2010). Examining the intricate interplay between incremental innovation and other organizational processes and strategies can provide a comprehensive understanding of the challenges and opportunities associated with these types of innovations in SMEs.

As a result, future research on incremental innovations in SMEs should prioritize gaining insights into management challenges, understanding the role of knowledge management strategies, assessing the impact of external factors, and examining the relationships with other organizational processes and strategies. By delving into these areas, researchers can offer valuable insights and recommendations that can aid managers and policymakers in their efforts to support and promote incremental innovation within SMEs.

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Indigenous Knowledge (IK) as a Paradigm Shift in Entrepreneurship Development and Poverty Alleviation: Issues and Policy Recommendations

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Abstract. While global progress on extreme poverty eradication has been made, this has been highly uneven globally and particularly in Africa where a significant proportion of the population continues to live in abject poverty. Although, many of the countries have embarked on various policies for driven small businesses and motivating entrepreneurship for poverty reduction, setbacks are a direct consequence of the neglect of people and their IK typified by their local cultural values, beliefs, tradition and religion for wealth creation, empowerment, and poverty reduction agenda. This paper, using qualitative data and analysis, explores the propensity of IK utilization as a new thinking in entrepreneurship development for enhanced entrepreneurial capabilities building and skills acquisition for sustainable poverty alleviation program and economic development. It concludes that IK provides substantial prospect for improving people's innovative and commercial skills, and building exciting indigenous-led economies that strengthen viable entrepreneurship, trade, and commercial improvement as well as economic independence. This approach, facilitated through effective governance structure and legal framework, will impact poverty alleviation programs/agenda and reduce poverty incidences. The work remains a novel consequent on less attention given to research on IK, indigenous entrepreneurship practice and poverty alleviation, and economic development in Africa.

Keywords: First Entrepreneurship · governance structure · indigenous knowledge · poverty alleviation

1 Introduction

In Africa, the natives have long been fighting poverty through their aborigine entrepreneurship activities in small businesses rooted in their cultural and traditional values and resources which are practiced and passed from generations to generations. The contemporary definition of entrepreneurship is concerned with the viability of business and its essential focus on uniqueness as a resolve for the commercialization of inventions and novel discoveries [1]. The indigenous people see their entrepreneurship as one that identifies the worth of trade for the advantage of the whole society [2]. To this

end, entrepreneurship, to the indigenous people, is self-innovative conception, organization, and improvement of new ventures and for their own benefits with serious concern about society's cultural beliefs, values and inheritance conservation and accomplishing personal autonomy [1]. Indigenous entrepreneurship, to the indigenous people is more concern with new business conception or search of commercial advantage for the benefits of the societies in line with its cultural ethos [3]. The major disparity between orthodox and indigenous enterprises, therefore, is that in the latter, communal involvement is always prevalent [1]. Thus, integration of indigenous community's IK exemplified by the cultural values, beliefs and traditions and neglect of these by any agenda for developing small businesses and motivating entrepreneurship for poverty reduction and empowerment program in the local communities is crucial. This provides the basis for campaign for the involvement of indigenous people in any entrepreneurship agenda.

There have been several programs and policies directed at improving the performance of small businesses and the entrepreneurial capabilities of people in the continent. Also, several institutions were established with capacity and budgetary allocation to promote small and medium enterprises and improve people's entrepreneurial skills. These are yet to yield the expected results. Thus, there is need for a rethink to find a lasting solution to the daunting and persistent poverty crises in the continent. It is on this note that the article finds solace in exploring issues in IK as a paradigm shift in entrepreneurship development to improve on the past efforts. This is with a view to achieving strong entrepreneurial capabilities building and skills of people for sustainable human development.

The novelty of this work is not only found in its focus on research on IK and indigenous entrepreneurship practice and development in Africa where there is dearth of research attention. African continent is focused being the one mostly engulfed with incidences of poverty. The significance of the paper is also found in the strategy employed which is concerned with ways of solving the continent's daunting and severe poverty problems with African solution using its neglected vastly endowed indigenous resources. The paper is expected to redirect and reposition the thinking of both the policy makers and the citizens, especially the youths, that enterprises capabilities and promotion, and entrepreneurship development is beyond fund allocation or how much financial resources is expended. It is also about how IK can be effectively harnessed, deployed, utilized, and balanced with other factors in driven entrepreneurship development agenda. This is with a view to enhancing wealth creation, employment generation and poverty reduction. The innovative deployment of IK will change people's attitude and perception towards indigenous entrepreneurial activities and establishment of small businesses for public interests and benefits. This will in turn enhance their involvement in the poverty reduction agenda through encouraged initiative that facilitates self-sufficiency, self-actualization/fulfilment, wealth creation and employment, and therefore reduce persistent social problems in Africa.

2 Exploration of Existing Literature

There is no doubt the fact that research in indigenous innovation, indigenous entrepreneurship and practice have gained less attention [4]. Besides, when related with conventional Entrepreneurship, it remained an under-researched exposure and

prominence [5]. This majorly affects IK and Indigenous entrepreneurship, among others [6]. While there is plethora of collected works on conventional entrepreneurship, only few exist regarding the discourse on IK and entrepreneurship [7]. The reason is not far-fetched, as has been identified elsewhere, indigenous entrepreneurship is basically seen to be imperfect and defective because most creativities remained emergent or inappropriately executed by indigenous people.

Literature on what constitute indigenous people are countless and shrouded with different conceptions and meanings. This notwithstanding, indigenous people still share similar features, and uphold exact or unambiguous characteristics dissimilar from dominant groups in society [8]. To make a clear distinction, for example, United Nations applies four criteria that can be used to at least clearly differentiate indigenous peoples to include geographical proximity and contiguity; unique institutions; special communal aspirations; and preservation of shared features [8]. Unfortunately, most of the entrepreneurship programs developed for wealth creation and employment generation do not properly take into consideration the aspirations, needs, values and importance of these peoples and their knowledge. This forms the basis of some argument that the neglect of these variables caused deteriorating state of indigenous peoples' welfare condition and forcing them to be more marginalized as well as the increasing failure rate associated with implementation of development policies, programs, and agenda. This therefore sparks interest in the study of indigenous resources' propensity to enhance viable empowerment agenda [9].

3 Methodology of the Research

The paper utilizes qualitative and historical research methodology. Critical interpretation and conclusions are made from the in-depth literature review and content analysis of methodically organized secondary data sourced from historical and policy documents, reports, scientific papers/journal articles archival sources and library sources.

4 Examining Research Issues and Findings

4.1 Indigenous Knowledge and Indigenous Innovation: Relationship to Entrepreneurial Activities and Poverty Reduction

Indigenous, traditional, or local knowledge is used to denote the special skills possessed by and identified with a community. It incorporates such a community's way of life and how they relate with their environment [10]. This, according to [11] also comprises definite idiosyncrasies and dogmas that form the society's ethics and standards for judging behaviors. On this note, [12] posits that, this knowledge is critical and essential for the continued existence of the inheritance of a specific people because the foundation of all their life activities is erected on it. To [13] IK is concerned with society's innovativeness, ingenuity, and dynamism in solving and mitigating different challenges of life. Thus, IK becomes inseparable from society's existence as it serves as the essential means of livelihood through their various indigenous innovative and entrepreneurial activities [10]. In this circumstance, it implies that indigenous peoples have engaged in entrepreneurial

and wealth creation activities abinitio regardless of the system of practice when compare with the contemporary definitions of entrepreneurship. For instance, the contemporary meaning and practice of “entrepreneurship” may convey and refer to the viability of enterprise and its focus on individual’s creativity and innovativeness for wealth creation [1]. Consequently, ordinary usage of entrepreneurship refers to individual action taken as a fulfilment of a set task independent of any external influence or intervention [3]. Thus, while comparing the contemporary and indigenous entrepreneurship, the latter is more concern with the rewards from trading for public welfares and advantages [2]. On this note, [1] defined indigenous entrepreneurship as the conception, controlling and growth of novel business or commercial ideas by local people for the advantage of their community while given deserve credence to society’s inheritance and personal independence. Thus, lack of deserved attention and respect for indigenous community and their cultural beliefs, tradition, and values as well as the integration of same in the entrepreneurship agenda is responsible for the abysmal failure of any policy and program directed at wealth creation and poverty alleviation.

A critical catalyst for economic growth is creativity which is one of the essential features of IK. Without creativity, inventiveness, innovativeness and innovators, wealth creation and employment generation will be limited. All these activities take place within a social system and must be considered by any development agenda. The GEI examines the environmental conduciveness and compatibility of the social system with entrepreneurial activities. According to the 2018 and 2019 GEI Ranking, no African country is among the first-fifty countries and among the 137 and 136 countries examined in 2018 and 2019 respectively. Those that managed to feature among the first-eighty in 2018 are just five. The most disheartening situation is that none of these countries improve in their ranking in 2019 except for Mauritania that moved from 136 position in 2018 to 133 in 2019. The Global Entrepreneurship Monitor (GEM) 2020/21 Global Report also found that, of the 46 economies that participated in GEM’s 2020 survey, levels of Total early-stage Entrepreneurial Activity (TEA) were high only in Middle East and in Angola and Morocco in Africa. This, by implication, shows that the continent of Africa is still lagging in engagements involving starting or running a new business. Besides, as reported by CEOWORLD magazine Entrepreneurship Index, 2021, apart from six (6) economies from Europe and North America with Taiwan and Israel, no countries from Sub-Saharan Africa have the potential skills, knowledge, and experience to take advantage of better opportunities to start a business. However, only South Africa is found to have high spirit of entrepreneurship by the 2021 Entrepreneurial spirit index by country. All these portend an intense indicator regarding capacity building and education for entrepreneurship, wealth creation, employment generation, and poverty alleviation.

5 Discussion of Research Findings

5.1 Indigenous Knowledge and Its Potency for Enhanced Entrepreneurship Development, Employment Generation and Poverty Alleviation: Global Examples

Exploration of literature has confirmed that Indigenous peoples are not novice or unfamiliar to creativities, innovativeness, and entrepreneurial activities. As can be found in history, 'the aboriginals exhibited and demonstrated ground-breaking innovation before the advent of colonial rule.

Globally, indigenous peoples have found to be instrumental to the conception and setting out of many exchange systems which are foundation upon which contemporary commerce is based [4]. The basis and practice of trade and the way trade is being facilitated among people at the local communities remained naturally novel, resourceful, and commercial. The notion of local invention associates and involves wide familiarity and understanding of locality and local talents in manufacturing implements and objects compliant to their setting. Examples of this can be found in the indigenous traditional industries including traditional fabrics, traditional medicine, carving, leather works, metal work (Blacksmithing and Goldsmithing), pottery making and fiber crafts among other industrial and technological activities in Nigeria, Australian indigenous tools and technology [4], among others.

Specifically in Africa, indigenous capacity for entrepreneurship development and resource management has existed long ago among different communities [14]. These forms of traditional industries/technologies constitute an important aspect of people's culture, and they equally epitomize the tools used for enduring relationships with their environment. Therefore, an understanding of the procedural issues in traditional technologies would enhance the appreciation of a people's beliefs and worldview. In the area of transport, indigenous people have used their ingenuity to facilitate trade, livelihood, and survival [14]. To further facilitate this, indigenous peoples have used their familiarity with and understanding of their natural environment in directing the means of transportation technologically advanced. For instance, centuries ago, indigenous people have creatively navigated several kilometers all over the Pacific to participate in economic activities [15]. In the areas of invention and creativity, indigenous people are found to be great and distinguished innovators and entrepreneurs ever before colonization. The Maori, for instance, are said to exemplify an Indigenous people whose strength and fame became renown because of their creativities as well as their ease absorption of technical skill and know-how [16]. For example, they controlled significant proportion of commercial activities in Aotearoa (New Zealand) due to their preoccupation with the sale and distribution of produce to Australia and other countries [2]. What made these people unique beings as described by [17] is their avowed commitment to hard work, devotion to quality, use of skill and dedication towards protection of their identity. All these can be leveraged to foster effective entrepreneurship development for poverty reduction. However, despite the obvious potential of IK to drive sustainable development, its utilization is still minimal. Some reasons advanced for its neglect include colonial rule and policies [18], modernization and specializations [19], the attitude of those in possession of the knowledge towards knowledge sharing, lack of IK database due to absence of proper

codification, documentation, and effective policy [20], the misconceptions about African IK and practices in academic discourse and literature, among others.

6 Conclusion and Policy Recommendations for Achieving IK Renaissance and Entrepreneurship Development for Poverty Alleviation

Without doubt indigenous peoples are reviving their heritage to reinstate and uphold their local uniqueness and existence and well-being through indigenous-led enterprise. However, the approach of the government to implement indigenous welfare programs, foster and implement entrepreneurship agenda have failed to recognize this pattern and therefore responsible for the persistent poverty and economic dependence among the indigenous peoples. Thus, indigenous economic independence, based on the utilization of IK, is a way forward to achieving entrepreneurship development to ensure program acceptability, maintain indigenous community integrity and survival. Consequently, to achieve effective utilization of IK for enhanced entrepreneurship development and poverty reduction, the government/policy makers, development partners, researchers, and individuals, as stakeholders, have different roles to play. For instance, to clear the fallacy and the challenge of non-scientific nature attributed to African IK for its effective freedom from Eurocentric conception. Government and policy makers should endeavor to empower both the historians and scientists in all the existing knowledge institutions by providing necessary infrastructure and grants for Research and Development (R&D) in the promotion, adoption, and transformation of African IK for entrepreneurship development. In the same vein, international development partners and agencies should intervene in the provision of funds required for R&D in IK. The research outputs, through effective and strong legal framework, should be properly patented to protect the intellectual property of the knowledge providers and commercialized for enhanced economic value of IK.

For proper documentation and prevention of the loss of the knowledge, the Indian Digital Library of Traditional Knowledge provides a good example from which African countries can learn as well as the guidelines of the World Intellectual Property Organization. Above all, all stakeholders must adopt and seek full execution of the pronouncement on the Rights of Indigenous Peoples. How then will this impact on poverty alleviation?

Regarding governance structure and legal framework for improving IK utilization for impacting poverty alleviation. There is need to provide or strengthen governance structure and legal framework which will facilitate the utilization of IK and enhance entrepreneurship development that will fast track the growth of SMEs [21] and impact poverty alleviation programs/agenda and reduce poverty incidences. This entails the establishment of new institutions for development and/or strengthening of the existing ones. The structure will provide a mechanism for stakeholders to have a clear understanding of their roles, expectations, objectives, performance, and line of communication and authority. To be able to do this effectively requires identification of the stakeholders (ministries, implementing agencies and departments, the private sector and civil society), prioritizing the goals to be achieved, creating the appropriate processes, selecting the best workforce, and unambiguous communication. This will help to sustainably preserve IK and encourage academics, policy makers, scientists, and students to gain enhanced

respect for local culture, its wisdom, its environmental ethics and propensity for economic independence and poverty alleviation. In this regard, there is need for effective partnership and collaboration among appropriate institutions like the Ministries of Education, Labor and productivity, Justice, Chambers of Commerce, among others. While some countries have done well in integrating entrepreneurship studies in their school curricular, there is still much to be desired. This is yet to impact on poverty alleviation due to the Eurocentric nature of the program. It ignores the African content which is very useful in improving people's innovative and commercial skills, capability that reinforce sustainable entrepreneurship, trade and commercial improvement and reduce poverty incidences. Thus, the teaching of entrepreneurship should also include exposing students to AIK resources and focus on the AIK and its propensity to foster economic development, impact and ensure sustainable poverty reduction agenda.

To further strengthen and consolidate the governance structure, it is critically important from the government to support and encourage IK and its accompanying economical activities and respective institutions with appropriate laws, regulations and required legislative power. Most especially, the issue of intellectual property must be addressed. To achieve adherence to the legal framework requires creation of awareness about and deep understanding of the Intellectual Property Right (IPR) laws to motivate, encourage and give confidence to innovators in developing startups/spin-offs from their IK. Besides, there is a need for appropriate industrial codes of conduct and ethical guidelines strictly implemented in any areas involving IK, its holders, and the created SMEs. Lastly, it is very essential for government to domesticate the laws across all levels of government and make provision for effective national and international alternative dispute resolution mechanisms in case of any violation or disputes arising from IK utilization and IPR. Putting this in place will yield maximum result if there is periodic monitoring and evaluation of all activities related to the management of IK, entrepreneurship policy and its accompanying SMEs.

While it is difficult to thoroughly explore all the strengths of IK in Africa, let alone globally, for driven entrepreneurship development in a single paper, the paper to a greater extent, has detailed most of the key issues involved in IK and entrepreneurship development with in-depth analysis. This notwithstanding, the global analysis and discussion as well as the theoretical and practical implication of the article is limited by its major focus on Africa. However, these are not substantial and sufficient to weaken its general application, value, and content as a good reference material for further research in the area. Hence, the relevance, credibility and acceptability of the content does not suffer due to this limitation. The lesson learnt from the discourse will provide direction for various countries in other continents of the world on how to look inward and effectively utilize their endowed IK and resources for solving their challenges with little or no cost.

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Chief Marketing Officer (CMO) Positions in Top Management Teams (TMTs): Just Another Copycat Behavior?

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Abstract. This research explores the diffusion of Chief Marketing Officer (CMO) positions in top management teams (TMTs) of modern organizations. Using institutional theory and through several propositions, it posits that memetic isomorphism plays a significant role in the evolution of CMO roles in TMTs. It studies various internal and external contingencies that promote or undermine the diffusion (mimicry and not mimicry) of CMO positions. These contingencies include market dynamism, R&D intensity, differentiation, concentration, diversification, growth, and TMT size. By studying how CMO positions evolve, this research will substantially contribute to marketing leadership, business strategy, and TMT literature, and it will improve our understanding of the CMO role as a signal of marketing significance in the firm.

Keywords: Chief Marketing Officer (CMO) · top management teams (TMTs) · diffusion · institutional theory · memetic isomorphism · marketing leadership · marketing strategy

1 Introduction

Top management teams (TMTs) are central to firms' survival and success as they control shareholders' wealth through their entitlement to make strategic decisions. The different characteristics of these TMTs are central to the firm's decision making and can predict its behavior and performance as per the upper echelon theory (Hambrick & Mason, 1984; Neely et al., 2020; Vitolla et al., 2020). A TMT usually consists of multiple members or C-suite level executives who serve different functions to achieve different organizational goals. In addition to the company Chief Executive Officer (CEO), "chief" positions have emerged in the past few decades including Chief Financial Officer (CFO), Chief Strategy Officer (CSO), Chief Operating Officer (COO), Chief Technology Officer (CTO) and Chief Marketing Officer (CMO). During this time, the number of chiefs and those who report directly to a firm's CEO has doubled (Guadalupe et al., 2014). Of these direct

CEO subordinates, functional chiefs outnumber traditional general managers because over time firms deviated from the classical U-form of the traditional organization (e.g. Chandler, 1962; Guadalupe et al., 2014).

The focal point and main unit of analysis in this research proposal is the CMO. More specifically, my primary objective in this paper is to study the diffusion of the CMO position in the modern firm. Marketing has proven itself to be one of the main functions of modern organizations; however, its influence is facing challenges (e.g. Webster et al., 2005). Accordingly, this concern can be tracked along all marketing-related activities, functions, and roles. The CMO, as the primary position responsible for marketing in the TMT of a specific firm, is an indicator of marketing significance and influence in that firm (Nath & Bharadwaj, 2020; Nath & Mahajan, 2008; Statsenko & Zubielqui, 2020; Piercy, 1986). Nath and Mahajan (2008) found in their study the average CMO presence in TMTs was 40% even though Booz Allen Hamilton estimated CMO presence in TMTs of the Fortune 1000 was 50% compared to 80% for the CFO (Hyde et al., 2004). Additionally, Eric Boyd et al. (2010) claim CMOs face many challenges to prove themselves in TMTs. These challenges may be responsible for a relatively low average tenure rate of 23 months (McGirt, 2007).

Furthermore, recent research found a robust, positive relationships between CMO presence in a firm's TMT and its performance in the marketplace (e.g. Germann et al., 2015; Nath & Mahajan, 2011; Weinzimmer et al., 2003). Therefore, understanding the diffusion of the CMO positions as a representative of marketing significance in firms will provide insights about marketing influence and relevance in today's marketplace. Furthermore, the roles of mimetic isomorphism along with multi-level contingencies are under researched, and, therefore, are the main areas of investigation in current research (DiMaggio & Powell, 1983; Lawrence & Lorsch, 1967; Sharma et al., 2020). Therefore, the main research questions of this paper are as follows: Do firms imitate each other in adopting CMO positions in their TMTs? If so, what TMT, firm- and industry-level factors, and internal and external contingencies make the CMO position diffuse faster and at a higher rate in an industry? How does this relate to mimetic isomorphism?

This paper contributes to management and marketing literature in multiple ways. First, it aims at discovering the variables that lead to the diffusion of the CMO positions in modern organizations. It investigates the responsibility of institutional theory in explaining this pattern of adoption in TMTs. It explores if mimetic isomorphism is more prevalent upon certain contingencies. It investigates the different industry-level factors such as diversification and concentration making this diffusion more pronounced. Additionally, it looks at the different firm-level factors such as size and differentiation which accelerate this diffusion. Furthermore, it investigates the relationship between this diffusion and internal TMT composition variables. Studying these contingencies along with CMO positions historical diffusion will offer insights pertaining to whether changes in them are responsible for the recent debate about CMO and marketing roles in firms. Finally, as research in this area is fragmented and needs more attention from management, it will add to the scant literature of TMT scholars as Menz (2012) addressed in his TMT meta-analysis.

In the following text, I will review key literature of the topic under investigation. Then, the theory that represents the backbone of the paper's arguments will be examined.

Next, the development of the research propositions will be deliberated. Then, the key findings will be discussed. Finally, the research conclusions and limitations will be identified and future research opportunities will be articulated.

2 Theoretical Background and Literature Review

2.1 Theoretical Background

Being concerned with the diffusion of the CMO as a position in the TMT, this paper looks for possible explanations for firms appointing a CMO. The main premise of this paper is based on the institutional theory (DiMaggio & Powell, 1983) which explains the organization's behavior through social and normative lenses, opposing the classical economics rational view of the firm. Instead, institutional theory posits firms behave in the marketplace in a socially oriented manner by complying with industry's norms, cultures, and rules to gain legitimacy. Maurer (1971) says the firm seeks legitimacy when it tries to justify its existence to its peers. Additionally, Suchman (1995) discusses how an organization's actions are proper, desirable, and acceptable in certain socially bounded belief systems, values, norms, and definitions. It also posits organizations take actions to gain credibility in their operational environments. It also reinforces the previously discussed idea that economic theories used to consider organizations as rational entities making their decisions as rationally and precisely as possible, later disputed by some scholars who showed organizations are more socially oriented and rationally bounded entities, are constrained by a variety of social and normative factors (e.g. Scott, 1987). Thus, firms' TMTs may make decisions in line with the institutional theory (Carpenter et al., 2004).

In this context, I posit some organizations adopt marketplace norms and appoint a CMO to gain legitimacy. DiMaggio & Powell (1983) named this behavior mimetic isomorphism. It could also be seen as a transmissible phenomenon because when some firms succeed upon adopting a new innovation, other firms, being aware of trend in their industry, will also adopt it (Haveman, 1993). Management and strategy scholars are familiar with this phenomenon as it explains corporate development strategies such as the waves of acquisitions and divestitures. A good example is the Brauer and Wiersema (2012) divestitures study which, based on competitive dynamics, argues investors will evaluate the divestiture decision based on the imitative behavior of managers (Bikhchandani et al., 1992, 1998). As uncertainty increases, managers imitate other firms' behavior, which has its roots in new institutional theory (DiMaggio & Powell, 1983). They add another explanation to this phenomenon from economics literature by discussing information cascades, in which one's behavior is based on others' information instead of their own information. Based on this theory, as uncertainty increases in the marketplace, firms tend to imitate their peers' behaviors, assuming they may know more about the market and environment than the firm itself. Additionally, the management fashion perspective for managerial decisions as proposed by some scholars could be in line with this prospective (Abrahamson, 1991). Additionally, contingency theory, or the theory of fit, could add more preciseness to these scenarios (Galbraith, 1973; Lawrence & Lorsch, 1967). Past research demonstrates clear evidence of a pronounced effect from firms' TMT environments (Carpenter et al., 2004). Hence, my proposed relationships will be

more pronounced in some conditions than others. Mimetic isomorphism will be more prevalent in certain circumstances such as lack of information or intense competition (Lieberman & Asaba, 2006).

2.2 Top Management Team (TMT)

TMT members, being charged with the primary responsibility for the organization's performance, are in the organization's top hierarchy and are equipped with extraordinary authority to make decisions. These teams evolved and expanded over time as market and environment dynamics have changed. For example, in the early 1970s firms began to adopt CFOs as the first functional position in the TMT structure, and, since then, other functional chiefs, such as CIO, CMO, CSO, and COO, have evolved in firms' C-suite level executives (Menz, 2012). These developments reflect the changes taking place firms were forced to cope with. Hambrick and Mason (1984), in their seminal TMT work, posit firms are actually a reflection of their TMTs. Whereas the early works were concerned with TMT composition and different associated variables such as member demographics, recent work also focuses on the individual chief positions such as CIO and CMO (Nath & Mahajan, 2008, 2011; Russen et al., 2021). Additionally, Guadalupe et al. (2014) claim TMT research has been too focused on its composition and ignored its reflection of the organization's structure and strategies.

2.3 Chief Marketing Officer (CMO)

Marketing scholars are increasingly interested in investigating CMO roles in modern organizations. One of the earliest works in CMO literature is Piercy's (1986) paper in which he named the marketing leader inside firms the chief marketing executive. In addition, there is an emerging and recent research interest in the CMO role in organizations. Eric Boyd et al. (2010) identify the CMO as the TMT member responsible for marketing activities and capabilities in a firm and suggest the CMO has three main roles: first, informational, by providing the TMT with market- and consumer-related information to help make better decisions to survive and prosper; second, decisional, by helping the firm make marketing- and consumer-related strategic and investment decisions; and third, relational, by building and maintaining the firm's relationship with external stakeholders. Additionally, Court (2007) suggests CMO roles should be extended to cope with the dynamic marketplace and ever-changing customer needs. Moreover, extraordinary financial results are associated with a good alignment between firms' marketing and business strategies (Slater & Olson, 2001). There are three main contributions marketing provides to corporate strategy as suggested by Webster (1992). First, evaluating markets from a customer value perspective (Statsenko & Zubielqui, 2020). Second, representing consumers in firms which will enhance customer orientation. Third, create and adopt a value proposition for the company on firm and industry levels.

2.4 CMO and Firm Performance

Recent CMO research asks important questions about the impact of CMO presence in TMTs and the variables contributing to that presence (Nath & Bharadwaj, 2020). In most

of these studies, the authors suggest a positive relationship between CMO presence and organizational performance. This positive relationship was more pronounced upon certain contingencies. Weinzimmer et al. (2003) find presence of CMO is associated with a higher growth in sales. On the other hand, Nath and Mahajan (2008) posit CMO presence has a neutral effect on a firm's performance. They also argue there is a greater presence of CMOs in firms with higher diversification, branding strategy, innovation, differentiation, TMT functional experience, and an outsider CEO. In their follow up study, they demonstrate when CMOs have responsibility over sales this presence is associated with sales growth (Nath & Mahajan, 2011). In that study, they argue CMO power increases in conjunction with sales responsibility, and as TMT marketing experience decreases, the latter condition will be more pronounced if the firm pursues innovation. Building on this work, Germann et al. (2015), using a more comprehensive sample, additional years, and sophisticated methodology, found firms with CMOs in their top management team have 15% higher Tobin's Q than those who do not. Furthermore, Abernathy et al. (2013) used the finance theory to study the effect of CMO presence on firms' performance and found a CMO will increase the firm's returns and shareholders' value. Boyd, Chandy, and Cunha (2010) suggest CMO presence in the TMT will enhance the firms' performance if that presence is equipped with management discretion and support. Additionally, Fabrizi (2014) posits CMO incentives increase as marketing intensity increases. This study argues this increase in incentives is in return reflected in the firm's shareholders' value.

3 Research Propositions and Conceptual Model

TMTs are an integral part of organizations' markets and environments, and, therefore, they usually behave spontaneously. They evolve through mimetic behaviors as by nature they face uncertainty (DiMaggio, & Powell, 1983). They engage in this mimetic isomorphism to cope with uncertainty in an attempt to retain a more secure environment (Sharma et al., 2020). Such behavior is adopted to gain legitimacy in dealing with stakeholders in the marketplace. For example, a firm sometimes imitates common patterns in its environment to justify its existence in that domain (Maurer, 1971). In some cases, firms follow common practices not because of their feasibility but because they became a managerial fashion (Abrahamson, 1991). In a competitive environment, firms will imitate their peers' successful products, managerial systems, and organizational processes (Lieberman & Asaba, 2006). In a similar fashion, this research posits firms might appoint a CMO in an imitative manner to gain legitimacy and deal with uncertainty. Therefore,

Proposition 1. As more CMOs are appointed in an industry, the more likely a firm in that industry will appoint a CMO in an imitative manner.

On the other hand, the diffusion will be more pronounced in some external and internal contingencies (Galbraith, 1973; Lawrence & Lorsch, 1967). All of the following variables will be discussed in the subsequent propositions: market dynamism, R&D intensity, differentiation, concentration, diversification, growth, and TMT size.

In today's ever-dynamic marketplace, firms must be proactive and continuously engage in developing new systems, structures, relationships, and products. This uncertainty is usually explained by the degree to which TMTs are not able to anticipate changes in market demand, competition, innovation, regulations, and their environment at large.

Furthermore, organizations operating in environments with high levels of uncertainty are more vulnerable to mimetic isomorphism (Lieberman & Asaba, 2006). Such uncertainty may lead to the firm's TMT or chief executive officers to study the feasibility and value of a CMO (Eric Boyd et al., 2010). However, if the CMO is at the decision table, his inputs on uncertainty related variables such the changing demand or new innovation cannot be discounted (Aaker, 2008). So, if the uncertainty confronting the firm is attributed to marketing-related variables, this might initiate the need for appointing a CMO in a TMT. Other scholars have used similar arguments to explain marketing power and influence during periods of uncertainty (Homburg et al., 1999; Nath & Mahajan, 2011). Therefore:

Proposition 2. Firms operating in more dynamic markets have an increased chance to adopt a CMO position.

Based on the previous top management literature, Nath and Mahajan (2008) find firms with higher rates of innovation and R&D expenditures have a higher probability of having a CMO in their TMT than those that do not. A primary responsibility of a CMO is new product development related activities (Piercy, 1986). Moreover, marketing is generally more vital where R&D is more intensive (Homburg et al., 1999). Additionally, Abernathy et al. (2013) suggest firms with greater R&D intensity may benefit more from CMO presence in TMTs as far as overall firm value. That is, the more intensive the R&D, the more the CMO will contribute positively to firm value. Additionally, a firm operating in a more R&D- and technology-intensive industry usually imitates its competitors' behaviors to stay current with technological developments that might threaten its existence and long-term survival. I posit, as such firms tend to stand out from their competition by focusing on innovation, they will imitate successful innovators' managerial behaviors, represented in this case by CMO appointment. Based on these reasons and the uncertainty argument discussed previously, this research suggests greater R&D intensity adopted by a firm and the industry overall R&D intensity are both associated with an increased need for a new CMO appointment. Therefore,

Proposition 3a. The possibility of adopting a CMO position increases as industry R&D intensity increases.

Proposition 3b. The possibility of adopting a CMO position increases as a firm's R&D intensity increases.

Porter (1980) introduces product differentiation as a main strategy a firm could adopt to gain competitiveness. Differentiating the firm's products is associated with innovation and more abstract marketing strategies. Based on these facts, Abernathy et al. (2013) argue the CMO role is essential to lead product differentiation efforts inside the firm. Moreover, Nath and Mahajan (2008) find the more the company's products are differentiated, the more likely it will have a CMO in its TMT. So, in such differentiation-based industries, firms are conscious of their competitors' innovative moves which could give them an advantage over their competition. Therefore, when they observe their competitors appointing a CMO, they might do the same in an imitative fashion to maintain their competitiveness and keep up with the industry norms. Although differentiation as an abstract idea is supposed to make firms less dependent on imitation in making decisions, this research posits such firms might imitate a managerial system to be successfully differentiated firms in competitive markets (Lieberman & Asaba, 2006). They will observe other differentiated firms obtaining CMOs to help them develop new market segments

and introduce new products (Kerin, R. A., Mahajan, V., & Varadarajan, 1990), and they will act similarly to enjoy the benefits of such differentiation. Additionally, Aaker (2008) suggests when a CMO introduces a proposal to the TMT related to a new market segment, it will unlikely be ignored. Therefore,

Proposition 4a. The possibility of adopting a CMO position increases as the industry's differentiation increases.

Proposition 4b. The possibility of adopting a CMO position increases as a firm's differentiation increases.

If a firm operates in a highly concentrated industry, then, competitors are very few, but large in size. In such cases, firms will be less motivated to engage in product differentiation initiatives, and innovation will be less prevalent. Based on prevalent marketing and strategy thinking such as Porter's (1980), Nath and Mahajan hypothesized the more concentrated the industry, the presence of a CMO is less likely. Similarly, this research proposes the more concentrated the industry, the less likely a firm will appoint a CMO, which is in line with the previous argument pertaining to the positive relationship between differentiation and CMO diffusion. Therefore,

Proposition 5. The possibility of adopting a CMO position decreases as the industry's concentration increases.

Firms usually engage in diversification to expand revenue opportunities and increase value for shareholders. Engaging in different types of related (or even unrelated) diversification places additional burdens on TMTs and increases the number of departments and functions they control. Consequently, a TMT must optimize the fit between different departments. Abernathy et al. (2013) suggest a CMO will increase the alignment in the marketing activities of diversified firms. Additionally, past research demonstrates some positive relationships between diversification and other TMT members' presence (Menz & Scheef, 2014). Moreover, Aaker (2008) posit the CMO's challenge is to coordinate marketing strategies across different silos of the firm. Additionally, past research on divestiture waves, which is usually the results over-diversification, finds some relationships between acquisition waves and mimetic isomorphism (e.g. Brauer & Wiersema, 2012). Therefore,

Proposition 6. The possibility of adopting a CMO position increases as a firm's diversification increases.

Growing industries have different characteristics from those which are either stable or in decline. Germann et al. (2015) argue the positive impact of the CMO presence in the TMT on the firm's performance is more pronounced in growing industries. Similarly, Weinzimmer et al. (2003) find the existence of marketing in firm's TMT enhances sales growth. Additionally, if a firm competes in a growing industry, but its sales are declining, it is even more likely to appoint a CMO in an imitative fashion. Therefore,

Proposition 7a. The possibility of adopting a CMO position increases as the industry's growth rate increases.

Proposition 7b. The possibility of adopting a CMO position in an imitative fashion increases as the firm's sales decline in a growing industry.

Guadalupe et al. (2014) called for more research into the interaction of different roles of TMTs, which may include studying the impact of the presence of one role versus another. As the company becomes more competitive, it will have more specialized skills.

Similarly, as it appoints more C-suite executives, it tends to appoint new ones because, as the firm realizes the benefits from assigning certain C-suite positions, it will have the desire to enjoy similar benefits from different functions. Therefore, it will be vulnerable to mimetic isomorphism in appointing other C-suite positions such as the CMO. Based on the previously discussed arguments, it is rational to predict as the size of the TMT's gets bigger, the chance of appointing a new CMO increases. Therefore,

Proposition 8. The more chiefs a firm has in its TMT, the more likely it is to appoint a CMO.

4 Discussion

The current study investigates the diffusion of CMOs in TMTs and illustrates, through several propositions, how memetic isomorphism contributes to the evolution of CMO appointments in TMTs. This research's findings are aligned with early research that demonstrates how such mimicry behaviors can explain plenty of organizational activities such as new market entry and restructuring units and departments (Ge et al., 2019; Lee & Pennings, 2002; Lu, 2002). Firms find themselves under pressure to follow their competitors' moves when the latter appoint CMOs, to sustain their reputation and maintain their legitimacy in the marketplace. They also take such moves in the industry (i.e., appointing CMOs) as a source of information that their competition is planning to invest further on marketing, and therefore, they follow suit to remain relevant in the marketplace. Furthermore, this research studied multiple firm and industry level contingencies, and draw some inferences on how these contingencies may make such imitative behaviors more (or less) prevalent.

Increasing market dynamism creates further pressure on organizations to always be on the look out for their competitors, and past research have actually indicated that increased uncertainty and dynamism in the marketplace increase the propensity of mimetic isomorphism behavior (Lieberman & Asaba, 2006). Such behavior becomes more salient when organizations try to act fast in an attempt to be agile in responding to their competition. For instance, Sharma and colleagues (2020) suggest that firms tend to adopt some coping mechanisms (e.g., mimicking their competition) as uncertainty increases in their immediate environment. As such, this research posits that appointing CMOs in an imitative manner increases, as the market dynamism and uncertainty increases.

A marketing practice wisdom suggests that CMOs productively facilitate firms R&D efforts to introduce new products (Abernathy et al., 2013). Thus, as firms' beliefs of the importance and centrality of marketing, and, in turns, of CMOs to the productivity of their R&D activities increase, they get more inclined to pay more attention to and devote more resources to marketing. Consequently, firms with more intense R&D activities and those that operate in R&D intense industries are even more suspect to appoint CMOs in an imitative fashion. Furthermore, current research also highlights that firms with high propensity to differentiate their offerings and those operating in industries of high differentiations have higher likelihood of imitating their competition when the latter appoint CMOs in their TMTs. In such competitive markets, firms find themselves in a continuous look out for relevant, modern, and lean managerial system that empowers differentiation

(Lieberman & Asaba, 2006), and, thus, when their competition include CMO positions, they follow suit, thinking that such move might give them a competitive edge. Analogously, early research suggest that conformity and differentiation can simultaneously be a productive combination for firms to thrive in competitive markets (Zhang et al., 2020). In contrast, as highlighted by this research, as innovation and differentiation get less relevant in concentrated markets (i.e., markets with very few incumbents), firms' tendency to appoint CMOs in an imitative manner get less prevalent.

Attention to marketing represented by appointing a CMO empowers firm's ability to collaborate with customers and build the dynamic capabilities warranted for productive diversification efforts (Statsenko & Zubielqui, 2020). Current research reinforces early research's findings and contribute to our understanding of this phenomenon by incorporating the notion of mimetic isomorphism as a factor that amplify the firm's tendency to adopt CMO positions as they get more diversified. Similarly, previous research highlighted the role of mimetic isomorphism in diversification, divestures, and acquisition waves (e.g. Brauer & Wiersema, 2012). Moreover, I suggest that firms operate in highly growing industries are more likely to appoint CMOs in their TMTs to the reap the aforementioned benefits of appointing CMOs (e.g., new product development, customer collaborations, etc.), which is aligned with findings of early research (e.g., Germann et al., 2015). However, present research highlights the role of imitation in explaining firms behavior when they appoint CMOs to keep up with their competition and suggest that such behavior would be even more salient if the firm is underperforming in highly growing market. Finally, current research responds to early research calls for more inquiries into the composition of TMTs (e.g., Guadalupe et al., 2014; Russen et al., 2021) by investigating the possible increase in the chance of appointing a CMO in a company as the size of its TMT increases.

5 Conclusion, Limitations, and Future Research

In conclusion, this research helps to understand the evolution of the CMO as a key position in modern organizations. Such understanding will contribute to the scant literature of firms' TMTs (Guadalupe et al., 2014; Menz, 2012). It suggests that adopting the CMO position can be partially attributed to a mimetic practice firms engage in to gain legitimacy and deal with uncertainty in the marketplace. It investigates various internal and external contingencies that promote or undermine the diffusion of CMO positions. These contingencies include market dynamism, R&D intensity, differentiation, concentration, diversification, growth, and TMT size. All industry-, firm-, and TMT-level contingencies discussed by the present research help to further improve our understanding and add more preciseness to the proposed arguments. This study contributes to the literature of upper echelon and TMTs by highlighting the role of mimetic isomorphism in explaining CMO appointments and showing the contingencies under which such imitative appointment of a CMO becomes more prevalent. By doing so, it answers some of the questions raised by the recent debate on CMO significance inside organizations which makes the CMO diffusion context more interesting than the diffusion of other C-suite level roles.

However, there is no study without limitations; therefore, I have identified potential limitations in my research. First, this is a conceptual paper, and therefore, all arguments presented are solely based on theoretical induction and past research findings.

Thus, empirical investigations are warranted to examine the proposed arguments in a quantitative fashion. Furthermore, although this research studied some of the possible contingencies that might make the imitation behavior more or less pronounced, future research may consider investigating additional contingences such as consumer power or industry hostility.

Furthermore, exciting opportunities exist for future research into TMT context (Menz, 2012). The impact of the presence of certain C-suite positions such as CSO, CIO, and CTO demands closer attention from management and strategy scholars. For instance, Nath & Bharadwaj, (2020). Suggest that, under certain conditions, the positive effect of the presence of CMO position of firm performance is strengthened when the firm has also appointed a chief sales officer (CSO). Additionally, the different interactions and relationships between C-suite positions within TMTs are promising areas for future research. Finally, whether such mimetic isomorphism that explains the diffusion of CMOs could also apply on other C-suite positions such as CTOs and CSOs warrants further investigation by future research.

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Do Women Consider Purchasing Eco-Friendly Beauty Products? An Examination of Personal Motivations and Perceived Social Media Marketing

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Abstract. The study is prompted by the assumption that ecologically responsible beauty products are no longer necessary and helpful things to purchase, but they can raise awareness about environmental stewardship. Women, being the primary users of environmentally friendly beauty products on several fronts, are aware of the cost of environmentally friendly beauty products. On the other hand, the usage of social media as a marketing tool might influence the choice to buy these products. A quantitative technique is used in this investigation. This study included a total of 136 women from Jakarta as participants. SEM-PLS modeling with SmartPLS 4.0 is used for data analysis. Surprisingly, the findings of this study show that, in general, social media marketing has a significant influence in shaping purchasing intentions, subjective standards, and product knowledge. This, however, does not apply to the development of price awareness. Furthermore, the findings of this study show that women's perceptions of being able to make a good contribution to the environment are a key predictor of their decision to purchase environmentally friendly beauty products. The limitations of this study are the use of genders, specifically women, as participants and the usage of ecologically friendly cosmetic items, which are often not subject to precise product standards. As a result, future study might investigate including these two features.

Keywords: Eco-Friendly Beauty Products · Women · Perceived Social Media Marketing · Price Consciousness · Subjective Norms

1 Introduction

Everyday beauty items frequently contain plastic elements that are harmful to the environment. The growing quantity of beauty products supplied and used generates a greater amount of plastic trash. Plastic trash from beauty product packaging will build and become an environmental hazard if it is not properly handled and recycled. Actions in the form of a collaborative role to limit environmental consequences are required,

including for beauty product makers. In other words, emotional value, ethical concerns, and health considerations all play a role in establishing the desire to buy eco-friendly beauty products [1, 2].

Even now, ecologically friendly packaging is utilized not just to safeguard the environment, but also as a new social trend. This is an intriguing topic to investigate in terms of demand, supply, and ecologically favorable ideals. Several studies describe the decision-making behavior of beauty product users, which explains the variety of factors. Several research show that social media marketing has a significant influence on the creation of purchase intentions [3–7]. On the other hand, other factors also determine purchasing decisions, such as knowledge of the product being purchased [8, 9], price [3, 10, 11], subjective norms [12–14], and attitudes [15–17]. Differences in current research results are subsequently reintroduced into the study for scrutiny. This is because cosmetic products, particularly for women, are used daily. Furthermore, eco-friendly beauty products offer a specific additional value that entices women to buy them. This research will be more fascinating and urgent due to its popularity, substantially higher price awareness, and subjective standards. This study consists of an opening with background, a literature review and hypothesis development, methods, results, and discussion, and a closing with conclusions, limitations, and recommendations for future studies.

2 Review of Literature and Development of Hypothesis

2.1 Perceived Social Media Marketing

Popular social media platforms such as Twitter, Facebook, and weblogs enable engagement through shared material, which is ideal for social media marketing [4, 5, 7]. Aside from the social impacts that many people use social media for [18], marketing using social media allows for the provision of information such as product attributes and prices [3, 6]. As a result, social media marketing has a tight association with the desire to acquire items, which shapes knowledge and behavior toward environmental care [19, 20]. The following possibilities are presented based on the issues outlined above:

H1a: Perceived social media marketing significantly influences perceived consumer effectiveness.

H1b: Perceived social media marketing significantly influences price consciousness.

H1c: Perceived social media marketing significantly influences product knowledge.

H1d: Perceived social media marketing significantly influences subjective norms.

2.2 Personal Motivation

Product knowledge is defined as information about a product that is absorbed by individuals [21]. The amount of knowledge an individual has about a product can impact the individual's intent to purchase [8]. Furthermore, items associated with environmentally friendly principles will peak people's interest, leading to a purchase intention [9]. The above explanations therefore serve as the foundation for posing the following hypotheses:

H2: Product knowledge significantly influences attitude.

Price consciousness is simply defined as a person's knowledge or acceptance of a specific price for a product. Environmentally friendly items, especially beauty products, are frequently perceived to be more expensive than non-environmentally friendly products [3], and this has a negative association with price awareness [22]. However, price knowledge usually influences purchase intentions [10, 11]. The hypothesis is raised using the current explanations as follows:

H3: Price consciousness significantly influences intention.

Perceived consumer effectiveness is a type of customer knowledge that the activities they perform have the potential to change something [23, 24]. The greater the amount of customer awareness, the greater the desire to purchase [7, 25]. The explanation of this notion thus serves as the foundation for the following hypotheses:

H4a: Perceived consumer effectiveness significantly influences attitude.

H4b: Perceived consumer effectiveness significantly influences intention.

Subjective norms are commonly defined as a type of emotion or social pressure from others that impacts individual attitudes or actions in decision-making [26]. This is also connected to the features of society in a nation with a lot of cultural and normative norms, like Chinese culture [27–29]. It is not unexpected, given the notion of subjective norms and the examination of a community trait, that subjective norms are associated to purchase intentions [12–14]. These explanations lead to the following hypothesis:

H5: Subjective norms significantly influence intention.

Attitude is traditionally viewed as a kind of appraisal of human conduct [26], and in this instance, it has to do with the attitude of contemplating the purchase of environmentally friendly items [7]. Several prior research have described how attitude is connected to the act of buying, or how it is related to the intention to buy [15–17]. With the previous explanations in place, the following hypothesis is advanced:

H6: Attitude significantly influences intention.

According to Ajzen [26], **perceived behavioral control** is a type of ease or difficulty that an individual feels for anything he performs. For example, when purchasing environmentally friendly items, control over external factors such as price or knowledge might influence purchase intent [30]. Following these explanations, the following theories are proposed:

H7a: Perceived behavioral control significantly influences intention.

H7b: Perceived behavioral control significantly influences price consciousness.

Purchasing intent may be defined as a desire to make a purchase. This approach may also be used for the purchase of ecologically friendly items [31–33]. As demonstrated in Fig. 1, the explanations offered above raise a conceptual framework [7] that has been modified.

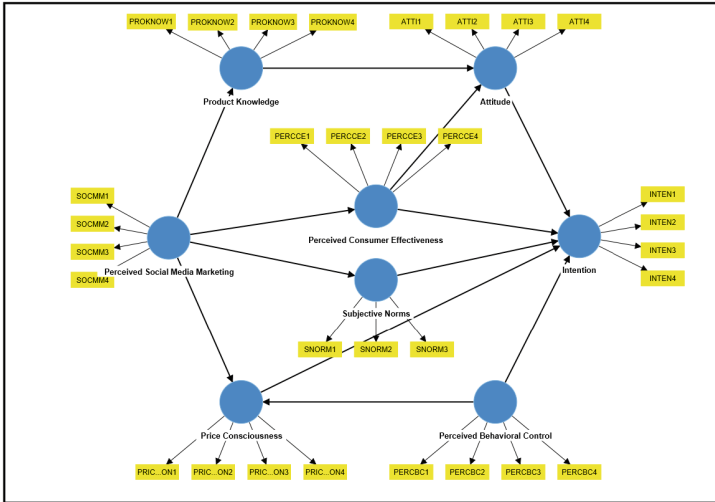


Fig. 1. Conceptual Framework

3 Methods

There are eight variables in this quantitative study using SEM-PLS modeling. SmartPLS 4.0 is used in this study’s analysis. This program allows for the analysis of data with a small sample size. The perceived social media marketing variable is made up of four components: Social media provides information about environmentally friendly beauty products that benefit human health; it is a place to express opinions about environmentally friendly beauty products; it seeks information about environmentally friendly beauty products on social media; and it shares information about environmentally friendly beauty products on social media [4, 7, 19, 34]. The product knowledge variable includes four items: familiarity with eco-friendly beauty products; seeing eco-friendly beauty products in shopping areas; frequently seeing eco-friendly beauty products through articles or news; and knowing a lot about eco-friendly beauty products [7, 35].

Price consciousness is comprised of four components: price is the determining factor in purchasing products; price is an important factor in purchasing decisions; attempting to purchase products at the lowest possible price; and paying attention to prices when purchasing products [7, 22, 36]. Furthermore, eco-friendly beauty products are beneficial for consumers to protect the environment; they tend to think about how caring about the products used can have an impact on the environment; they are aware of having a significant impact on the environment; and they have meaningful behavior to care for the environment by purchasing environmentally friendly beauty products [7, 8].

Subjective norms include three components: it is important to support the purchase of eco-friendly beauty products; I will invite people close to me to purchase eco-friendly beauty products; and I feel useful when purchasing eco-friendly beauty products [7, 31–33]. Buying eco-friendly beauty products to protect the environment; buying eco-friendly beauty products is a good idea; supporting buying eco-friendly beauty products; and having a supportive attitude to buy eco-friendly products [7, 31–33].

Furthermore, the perceived behavioral control variable includes four items: having enough time to buy eco-friendly beauty products, knowing where to buy eco-friendly beauty products, having control to buy eco-friendly beauty products, and having enough information to buy eco-friendly beauty products [7, 31, 32]. The intention variable consists of four items: plans to purchase eco-friendly beauty products; willingness to purchase eco-friendly beauty products; plans to purchase eco-friendly beauty products; and willingness to pay more for eco-friendly beauty products [7, 30–32].

This study employs sample criteria to determine sample size, namely women of various ages living in Jakarta who have purchased beauty products and are already aware of eco-friendly beauty goods. Furthermore, the minimum and maximum sample sizes were calculated using these criteria by multiplying the number of items (31 items) by 5 to 10 [37–39]. Based on this technique, a minimum sample size of 155 samples and a maximum sample size of 310 samples were produced. 136 questionnaires were acquired in the distribution survey done in April–June 2023 that satisfied the given criteria and were utilized as the sample size in this investigation. Table 1 depicts the distribution of participants in this study.

Table 1. Profile of Participants

Description	N	%	Description	N	%
Gender	136	100%	Age	57	41.91%
Female			≤20 years old	71	52.21%
			21–30 years old	8	5.88%
			>30 years old		
Residence	136	100%	Job	92	67.65%
Jakarta			Student	3	2.21%
			Housewife	32	23.53%
			Private sector employee	9	6.62%
			Self-employed		

4 Results and Discussion

The PLS-Algorithm results in Table 2 demonstrate that all items have an outer loading (OL) value larger than 0.7, indicating that all items are valid [40–42]. Similarly, for all variables, the average variance extracted (AVE) value is more than 0.5 [43–45]. These findings demonstrate that all variables have been valid. Furthermore, Cronbach's alpha (CA) findings for all variables are greater than 0.7, suggesting that all variables are reliable [46, 47]. This is also supported by the composite reliability (CR) findings for all variables with a value larger than 0.7, which explains why all variables are considered reliable [48, 49].

Table 3 provides the coefficient of determination data, which suggests that the use of independent variables may explain 50.4% of the measurement of the attitude variable.

Table 2. PLS-Algorithm

Variable	Item	OL	AVE	CA	CR	Variable	Item	OL	AVE	CA	CR
Attitude	ATTI1	0.890	0.736	0.880	0.886	Perceived Consumer Effectiveness	PERCCE1	0.796	0.696	0.854	0.855
	ATTI2	0.802					PERCCE2	0.804			
	ATTI3	0.889					PERCCE3	0.882			
	ATTI4	0.848					PERCCE4	0.852			
Intention	INTEN1	0.894	0.760	0.892	0.902	Perceived Social Media Marketing	SOCMM1	0.838	0.734	0.879	0.884
	INTEN2	0.903					SOCMM2	0.868			
	INTEN3	0.930					SOCMM3	0.851			
	INTEN4	0.750					SOCMM4	0.870			
Perceived Behavioral Control	PERCBC1	0.830	0.708	0.862	0.870	Price Consciousness	PRICECON1	0.884	0.788	0.912	0.938
	PERCBC2	0.874					PRICECON2	0.909			
	PERCBC3	0.768					PRICECON3	0.832			
	PERCBC4	0.887									

Furthermore, the current independent factors explained 64.9% of the variation in intention. Independent factors explain 63.8% of the variance in perceived consumer efficacy. The independent factors utilized in assessing price consciousness were able to explain its representation of 8.2%. Meanwhile, the independent variables used to measure product knowledge were able to explain 59.8% of the contribution. At 44.7%, the remaining variable, subjective norms, may be explained by the independent variables.

Table 3. Coefficient of Determination

Variable	R-Square
Attitude	0.504
Intention	0.649
Perceived Consumer Effectiveness	0.638
Price Consciousness	0.082
Product Knowledge	0.598
Subjective Norms	0.447

The hypothesis test, as indicated in Table 4, accepts the study hypothesis if the p value is less than 0.05 [50, 51]. The first result displays a p value of 0.000, indicating that H1a is accepted, or that perceived social media marketing has a substantial influence on perceived customer effectiveness. The second result indicates a p value of 0.963, indicating that H1b is rejected, or that perceived social media marketing has no influence on price consciousness. The final finding in this study has a p value of 0.000, indicating that H1c is acceptable, or that perceived social media marketing has a substantial impact on product awareness. The fourth finding has a p value of 0.000, which explains why

H1d is accepted, or how perceived social media marketing impacts subjective norms strongly.

The next p value is 0.171, indicating that there is no significant impact on these two variables. These findings help to understand why H2 was rejected. The next number in price consciousness is 0.145; intention indicates that H3 is rejected. This explains why price knowledge has no influence on intention. Next, the p 0.000 result on the perceived customer effectiveness attitude path demonstrates that these two factors have a substantial influence. In other words, these findings indicate that H4a is acceptable. Furthermore, the p value of 0.002 on the perceived consumer effectiveness intention path reveals that there is a strong influence on these two variables, indicating that H4b is accepted.

The following findings on the subjective norms' intention route reveal a p value of 0.016, indicating that subjective norms have a considerable impact on intention, or H5 is accepted. It has a p value of 0.574 on the perceived behavioral control intention route, indicating that there is no significant effect on these two variables. These findings explain why H6 is rejected. The p value of 0.008 on the perceived behavioral control intention path reveals that there is a substantial impact on these two variables, suggesting that H7a is accepted. Furthermore, the p value of 0.014 on the perceived behavioral control and price consciousness route shows why these two factors are significant. As a result, this conclusion explains why H7b is acceptable.

Table 4. Hypothesis Testing

Hypothesis	T-Statistic	P-value	Remark	Hypothesis	T-Statistic	P-value	Remark
H1a	23.400	0.000	H1a accepted	H4a	8.201	0.000	H4a accepted
H1b	0.046	0.963	H1b rejected	H4b	3.091	0.002	H4b accepted
H1c	20.826	0.000	H1c accepted	H5	2.418	0.016	H5 accepted
H1d	11.128	0.000	H1d accepted	H6	0.562	0.574	H6 rejected
H2	1.370	0.171	H2 rejected	H7a	2.656	0.008	H7a accepted
H3	1.456	0.145	H3 rejected	H7b	2.450	0.014	H7b accepted

According to the findings of this study, none of the four hypotheses address the significance of perceived social media marketing, showing that this variable is essential in determining perceived consumer effectiveness, product knowledge, and subjective norms. In terms of the effectiveness felt by women from utilizing eco-friendly beauty products, when information is gained through social media, it becomes a significant point in establishing knowledge of environmental care for women. Indirectly, awareness

is established to care more about the environment, in addition to product knowledge about eco-friendly beauty items. This finding is consistent with another research that explained a similar viewpoint [4, 5, 7]. Several other studies agreed, explaining that consumers perceive social media marketing as a powerful way to form purchase intentions for a product [3, 6, 18–20]. The function of the media in developing awareness to care for the environment by establishing the purpose to buy eco-friendly beauty products, which is used every day by women, has a tight link.

It is normal for women to know when making purchase selections, especially for beauty products with specific values, such as engagement in environmental care. This is demonstrated by the findings of this study, which reveals that women do not need to struggle to discover information about ecologically friendly beauty products because there is a wealth of information available, especially through social media. Searching for information and utilizing applications to seek or buy a product have gotten easier as information technology has advanced [52, 53]. As a product's popularity grows, such as environmentally friendly cosmetic products, it no longer has a significant influence on behaviors or purchase decisions. These findings contrast from those of prior investigations [8, 9].

Women have discovered that costs for eco-friendly beauty products are substantially more than non-environmentally friendly beauty goods, which is like product knowledge. However, the findings of this study highlight that price knowledge is not a barrier to buy intent. This suggests that perceived advantages are more important in this situation than price as a barrier to decision-making. According to the explanation above, the results of this study are less relevant than the results of previous studies for popular beauty products that have a special value in forming environmental awareness [3, 10, 11]. However, the findings of this study were supported by similar findings, which also hold the same position on the existence of price awareness, which does not completely impact purchase decisions [22].

What women experience as consumers of beauty goods, particularly those that are ecologically friendly, has an influence on a variety of factors, particularly the purpose and act of purchasing these items. This is consistent with prior research, which found that eco-friendly cosmetic products have a specific value for women as users. Aside from meeting a particular need, ecologically responsible cosmetic products may still bring a feeling of environmental responsibility to customers. This is consistent with previous research, which emphasizes the advantages and worth of a product [7, 25, 33].

Women, as users of eco-friendly beauty products, have varied perspectives on subjective standards and attitudes when it comes to creating buying intentions. Subjective norms are seen to be more important than attitudes. This is acceptable in cases when cosmetic goods, particularly those that are eco-friendly, are directly linked to the opinions of other consumers. As a result, information from other consumers may be used to make decisions. Furthermore, this study appears to have enhanced the impression of societal influence that women should use cosmetic products. Existing research indicates a strong link between subjective norms and purchase intentions [12–14]. In terms of attitude, however, the findings of this study differ from those of earlier studies. More research [15–17].

5 Conclusion, Limitations, and Recommendation

This study underlines the findings that social media marketing has a significant role in shaping goals, providing product knowledge, and building subjective standards for women, particularly in environmentally friendly cosmetic goods. In this context, social media is seen as a platform for communicating and finding critical information, particularly regarding the usage and value of eco-friendly beauty products. Interestingly, the study's findings highlight that women who use eco-friendly beauty products are already aware that the price of these products will be relatively higher than non-environmentally friendly products; however, the study also explains that women who use eco-friendly beauty products still have full control to purchase this product at a specific price, including a currently low price or with certain promotions.

In various aspects, this study is limited. First, because just one gender participated in this study, the results were more concentrated but less able to explain behavior from a male perspective. Men are increasingly using beauty products that are maintenance oriented. As a result, the inclusion of males as subjects in future studies should be explored. Second, because this study does not define a specific brand as an eco-friendly beauty product, the results are simply generic for eco-friendly beauty goods. Beauty items branded as eco-friendly but receiving mixed reactions (positive or negative) are also thought to need further investigation to supplement previous study findings.

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The Moderating Role of Self-Confidence Bias in Conservatism Among Investors in Retirement Planning

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Abstract. This study determined the moderating role of self-confidence bias in conservatism among the investors in Malaysian Stock Market. Data that were collected from individual investors who are aged 18 years and above in the central region such as Melaka, Selangor, and W.P Kuala Lumpur were analysed using the Partial Least Squares Structural Equation Modelling (PLS-SEM). Interestingly, conservatism becomes an important factor in trading behaviour of investors for retirement planning when it is moderated by self-confidence bias. Investors who have weak self-confidence bias when following others in making investment decisions for retirement become more risk averse than investors who have stronger self-confidence bias. Additionally, individuals who are often highly optimistic are more susceptible to conservatism that predispose them to assume a higher level of risk than those who have a weaker self-confidence bias. As trading in stock market is inevitable when making investment decision, self-confidence bias affecting the mental health of investors needs to be harnessed for better retirement planning outcomes. Thus, the policy makers must try to inculcate self-confidence among investors by constructing conducive policy and environment to enhance the efficiency of the stock market.

Keywords: self-confidence bias · conservatism · mental health · trading behaviour · retirement planning

1 Introduction

Many countries, including Malaysia, could not escape the predicament of experiencing increase in life span and declining in fertility rate. As the demographic of Malaysian continues to shift and resemble the profile of many aging countries, many Malaysians are grappling with the issues of retirement planning. As documented in the report of Current Population Estimates for Malaysia, 15 percent of the population aged 65 and above will be more than every other age group by 2050, [12]. Many laments that they could not retire as planned despite setting their retirement goals. However, generally, Malaysian investors' risk tolerance in trading behaviour for retirement planning is influenced by a few factors. As indicated in the nationwide survey report by Federation of Investment Managers Malaysia [16], approximately 20.04 million Malaysians participated in Unit

Trust schemes in 2019. Further to this, in their survey, overall, 81 percent of investors are satisfied with the services provided by their consultant while 19 percent of the respondents were not satisfied citing mis-selling, poor advice, poor after sales service, high charges and commissions among the reasons for their dissatisfaction. Generally, these reasons could also explain the investor's preference in making investment decisions with their own skills and knowledge instead of using a consultant. Moreover, in this era of digitalization with the advancement of technology, investor could enjoy easy access to market information when investing in the stock market. However, investing in the stock market could also further complicate the issues of retirement planning in view of increasing market volatility.

Furthermore, an individual's judgement could be biased by their perceptions towards income adequacy when they have poor physical and poor mental health. Individual's readiness to trade for better outcomes is higher if the individual is mentally healthy. Mental health issues are often linked to a disability in new mental equilibrium restoration when dealing with emotional related negativities such as nervousness, depression, and anxiety disorder [24]. Besides this, mental health awareness could be potentially influenced by their own psychological bias factors. In other words, the perception of risks and benefits in trading behaviour for retirement planning among the individuals could be impacted by their mental health, possibly induced by cognitive biases when making retirement planning decisions. As trading in stock market could be mentally stressful, only individuals who are mentally healthy could trade in a consistent manner for retirement planning. Thus, consequently, they are more likely to be mentally healthy when they achieve a certain level of success in their stock trading.

Although, there is a considerable volume of past studies written in psychological factors in investor's trading behaviour, these studies overlook the moderating effect of psychological factors. There are various types of psychological biases and this study re-examines the self-confidence bias, a bias which is largely known as overconfidence effect in the literature. Besides this, this study also determines if conservatism, a bias that suggests that individuals will seek out information that confirms their initial opinions formed in their mind to ensure no discrepancies between their opinions and the information received by them. In addition to this, self-confidence bias is associated with self-efficacy of an individual and as discussed by Cho and Lee [10], greater self-efficacy could reduce the perceived risk of an individual. As a result, the trading among investors could inevitably be affected by increase in search for information and the frequency of transactions.

As mental health of an individual is also possibly affected by psychological bias, this study seeks to further explore the effects of self-confidence, one of the psychological factors, in moderating conservatism of trading behaviour among investors for their mental health while planning for their retirement. Apart from this, this study aims to investigate the gender differences in the self-confidence bias of investors as different level of investment experience and education could be among the factors affecting overconfidence effect, as contended by Mishra and Metilda [25]. This paper discusses policy implications in Sect. 2 and methodology in Sect. 3. Section 4 presents the results with discussion while a few remarks are included to conclude Sect. 5 for this paper.

2 Policy Implications

Trading in stock market is inevitable when making investment decision to enhance retirement planning outcomes. Over-confidence bias is also heavily impacted by optimism bias in individuals [4, 17, 20, 21, 36] and overconfidence effects could also lead to suboptimal investment decisions [2, 11]. However, Lim [22] suggests that Malaysian investors are often than not inclined to think that their prices paid for stock will fall and the pervasiveness of pessimism bias among them have also contributed to their lack of confidence in their investment skills. Hence, the policy makers must try to inculcate self-confidence and optimism among investors by constructing conducive policies and environment to enhance the efficiency of the stock market. Without self-confidence bias, individuals may choose not to trade or take risks to increase the returns. This could also bring about suboptimal outcomes while planning for their retirement among the investors. Excessive confidence bias could be negated if the stock market's liquidity and efficiency could be improved with greater level of corporate governance and transparency. In short, individuals who are prone to self-confidence bias might be better informed and the self-confidence bias could be justified based on the background and skills of individuals. Consequently, they may be mentally happy compared to those who have lower confidence bias level when trading the stocks.

Market volatility in the stock market seems to suggest the insufficiency of traditional financial tools in evaluating the market. The behaviour of market sometimes exhibits the irrational "exuberance", a term coined by many proponents of behavioural finance. Many empirical studies have challenged and somewhat suggested that assumptions put forth in the efficient market hypothesis (EMH) and modern portfolio theory which are heavily relied upon by investors may no longer be effective in depicting the market behaviour. This has given birth to behavioural finance theory such as Prospect Theory by Kahneman and Tversky and thus, has fuelled an in-depth study in behavioural finance since then. Thus, investors are longer able to just rely on the traditional finance model or tools to trade in the market. They must be aware of the types of cognitive biases that could potentially affect their trading behaviour for better and optimal retirement planning outcomes.

3 Methodology/Material

3.1 Participants

Individual investors who are at least 18 years old based on their eligibility to open a central depository system (CDS) account, a stock trading account, is sampled using purposive sampling. Pre-test and pilot test are conducted before a total of 660 sets of structured questionnaires are distributed to individual investors in the central region such as Melaka, Selangor and W.P Kuala Lumpur.

3.2 Variables

A total of four hypotheses are constructed and are tested in this study. There are 26 items in the questionnaire, and only selected items are shown in Table 1. A few of the items

that are negatively worded are not shown in the Table 1. Likert scale is being used to rate the responses of the respondents. Each statement in the questionnaire is also being evaluated to determine if the item is reflective or formative in nature. Conservatism bias and trading behaviour of investors are reflective constructs while self-confidence bias is a formative construct in this study.

3.3 Instruments

The data are analysed by Partial Least Square (PLS)-variance-based SEM method using the Smart-PLS software to evaluate the measurement and structural models [31]. As self-confidence bias is hypothesised as a formative construct and the study is primarily exploratory in nature, PLS-SEM may be more suitable than Covariance Based-SEM [18]. Both reflective measurement models and formative measurement models are validated before assessing the structural model using the coefficient of determination (R^2), predictive relevance in terms of Q^2 , size and significance of path coefficients, f^2 effect sizes, as well as q^2 effect sizes. A two-stage approach for modelling the effects of self-confidence bias and a multi-group analysis to investigate the gender differences in self-confidence bias are used in this study [18]. The interaction plot is also provided to illustrate the effects of self-confidence bias moderating conservatism in trading level of investors.

3.4 Procedures

Pre-test and pilot test are conducted before a total of 660 sets of structured questionnaires are distributed to individual investors in the central region such as Melaka, Selangor and W.P Kuala Lumpur. Only a total of 354 sets of questionnaires are returned and 338 sets are usable upon omission due to incomplete data and other errors such as wrongly filled up by non-Malaysian. The non-probability sampling, specifically, quota sampling and purposive sampling were used in this study. In quota sampling method, the targeted respondents were surveyed based on a set of criteria to represent the ethnic composition. In purposive sampling, filter questions are being used to ensure only Malaysians with a CDS account participated in this research. About 660 respondents were selected to meet the minimum requirements of the sampling size determined by G-Power. Considering the difficulty to get 100 per cent of response rate from the respondents, about 300 sets of postal questionnaires were distributed in Melaka, Selangor, Kuala Lumpur. These states are selected due to the population distribution and characteristic of Malaysian's basic demographic.

3.5 Research Framework

The research framework is presented in Fig. 1.

Table 1. Lists of Selected Reflective and Formative Items for Each Construct

Item Type	Construct	Item
Reflective	Conservatism bias	<ol style="list-style-type: none"> 1. I would continue to hold a particular stock, because the stock has gone up for a long time previously, although now the stock price has fallen 2. I would try to avoid trading in stocks that have histories of poor earnings 3. I refer to past performances of stocks to trade stocks because I believe that stocks that are performing will continue in the future 4. I would increase the purchase of a stock that has gone down in prices to average down the prices that I have paid for all the stocks
Formative	Self-Confidence bias	<ol style="list-style-type: none"> 1. Losses in my stock trading are often due to external factors, i.e. macro-economic factors that are beyond my control 2. My gut feeling has frequently helped me to make good decisions in stock trading 3. I could identify the low points in the stock market 4. I am a competent trader
Reflective	Trading behaviour of investors	<ol style="list-style-type: none"> 1. I am a risk taker 2. I know how to work around a problem 3. I get the kick out of being impulsive in stock trading 4. I am ready to try something new

4 Results and Discussion

Only Malaysian investors are eligible to participate in this study and 660 sets of questionnaires are distributed to the respondents. Only a total of 354 sets of questionnaires are returned and 338 sets are usable upon omission due to incomplete data and other errors such as wrongly filled up by non-Malaysian. The data is also examined if they meet the assumptions for parametric analyses and tests are performed to correct for common method biases. The profile and characteristics of the investors are as depicted in Table 2. The constructs are validated using a set of criteria as shown in Table 3 before the structural model is validated in the next stage in this study. The constructs for conservatism and trading behaviour are hypothesised as reflective constructs and thus are assessed using criteria such as composite reliability and average variance extracted for reflective measurement. On the other hand, self-confidence bias, a formative construct is evaluated by formative criteria such as convergent validity and collinearity. Table 3 summarises the results for reflective measurement and formative measurement model, types of assessment and criterion for all the constructs in the study. The results of both reflective and formative assessments suggest that the constructs fulfilled the criterion and thus validated.

Based on the results of multi-group analysis, a significance difference between male and female is found in the relationship between the self-confidence bias and trading behaviour ($\beta = 0.230$, $t = 2.072$, $p < 0.05$) as shown in Table 4. This shows that male tend to have more self-confidence bias than female. In short, gender does moderate the

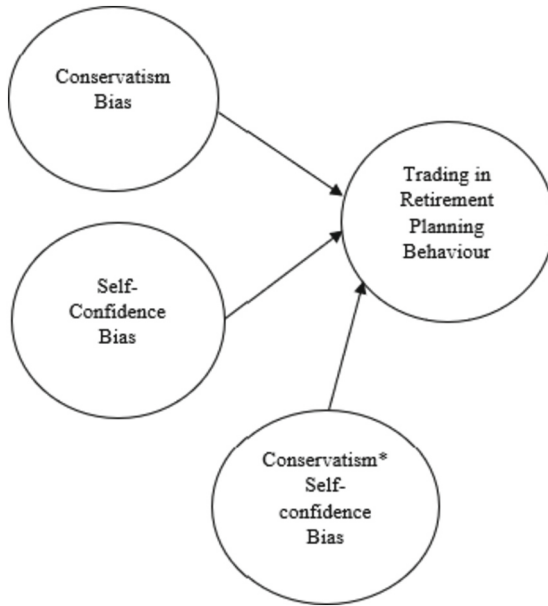


Fig. 1. Moderator Model with Interaction of Conservatism* Self-Confidence Bias Using Two-Stage Approach

Table 2. Malaysian Investors’ Characteristics

Demographic	Frequency (n = 338)	Percent (%)
Gender		
Male	186	55.03
Female	152	44.97
Marital Status		
Single	136	40.24
Married	199	58.88
Other	3	.88
Occupation		
Student	15	4.44
Working Adult	186	55.03
Self-employed	104	30.77
Retiree	29	8.58
Other (Unemployed, Not specified)	4	1.18

relationship between self-confidence bias and trading behaviour. Hence, hypothesis H1 is supported.

From the analysis, trading behaviour is not influenced by conservatism bias ($\beta = 0.016$, $t = 0.323$, not significant) as depicted in Table 5. As a result, hypothesis H2 is not supported. This documented result is unexpected and astonishing, as no substantial evidence portrays that many investors would assume more risks to reduce the average price paid for all the shares, as maintained by Mangot [23]. Further to this, contrary to the past findings of Barberis et al. [3], no substantial empirical evidence is found in this study to verify the existence of a conservatism bias tendency among Malaysian investors to pursue further investment in particular shares if they have invested a large amount of money in them. Financial competence and optimism bias among investors could be a plausible explanation for these findings. Not all investors are financially competent and optimistic. This is based on the supposition by Legoux et al. [21] that financial competence leads to a higher optimism level and subsequently greater susceptibility to confirmatory biases. In addition to this, the results seem to reinforce the proposition by Lim [22] that some Malaysian investors lack confidence pertaining to investment skills and are plagued by pessimism besides exhibiting a tendency to think that their stock prices will fall.

Based on the analysis, self-confidence bias is found to have a positive relationship with trading in retirement planning behaviour ($\beta = 0.482$, $t = 8.999$, $p < 0.01$) as shown in table 5. Thus, hypothesis 3 is supported. The f^2 and q^2 effect sizes for self-confidence bias are between medium and large, hence indicating that self-confidence bias is pivotal in explaining trading behaviour and has some predictive relevance for trading behaviour. Not surprisingly, self-confidence bias is found to be the most important psychological factor that affects the trading behaviour of investors given its preponderant role in the prior literature on investor's behaviour. This study lends support to the Manulife Investor Sentiment Index [13], a survey performed by Manulife as reported in Digital News Asia report [13]. The results of this study demonstrate the "self-attribution bias" that predisposes investors to ascribe their success to their own skills and blame failures on luck factors [2, 14]. The results obtained also bear witness to the "illusion of control" among investors who overestimate the reliability of their knowledge and thus believe that they can control the outcomes of completely random events. The findings also illustrate that investors believe that they have the capability of identifying the turning point in the market [6, 33]. Apart from this, the results are in line with the studies carried out by Bernartzi et al. [4], and Goetzmann and Peles [17], which find that individuals are often more optimistic than pessimistic. On the other hand, the findings contradict the findings of the previous studies by Chandra and Sharma [8]. This is probably because Malaysia is a country that is rich in cultural diversity and exhibits many differences in many aspects from other countries. In addition to this, the contradictory findings about self-confidence bias could be accounted for by the different levels of financial literacy of the country, as illustrated in the Manulife Investor Sentiment Index [13].

Meanwhile, the trading behaviour is found to be affected by the interaction item of conservatism bias with self-confidence bias ($\beta = 0.139$, $t = 2.213$, $p < 0.05$), f^2 effect size of 0.035 and q^2 effect size of 0.009 as presented in Table 6. Therefore, hypothesis H4 is supported. Besides this, there is a significant improvement in the R-square value

Table 3. Summary of the Assessment Results in Reflective Measurement and Formative Measurement Models

	Assessment	Criterion	Results
1	Internal Consistency	Composite reliability (CR)	CR > 0.7. It is acceptable for an exploratory Study
2	Indicator reliability	Item loadings	Not all item's loading > by.7 but they are retained because the deletion of these items do not increase the CR or AVE significantly
3	Convergent reliability	Average variance extracted (AVE)	AVE > 0.5
4	Discriminant reliability	1. Cross loading, 2. Fornell and Larcker's criterion 3. Heterotrait-monotrait ratio (HTMT)	1. The loading for an item is highest for its construct 2. The square root of AVE is above the correlation between the constructs and other constructs 3. HTMT < 0.85, the lower confidence interval and upper confidence interval do not contain 1
5	Convergent validity (Formative Construct)	Redundancy analysis	All the correlations are above 0.8
6	Collinearity (Formative)	Variance inflation factor	All VIF are < 5.0
7	Significance and Relevance of item (Formative)	Outer weights, Outer loadings	Not all the outer weights and outer loadings are significant for the items, but they are retained based on the content validity

Table 4. Hypothesis Testing Results for Moderator Model Using Multi-Group Analysis between Male and Female Investor

Hypothesis No	Hypothesized Path	Path Coefficients		Path Coefficients-difference Male & Female	T-Value	Decision
		Male	Female			
H1	Self-Confidence Bias - > Trading Behaviors	0.573	0.343	0.230	2.072*	Supported

** p < 0.01, * p < 0.05

Table 5. Hypothesis Testing results, Q^2 and Path Coefficients f^2 Effect Size and q^2 Effect Size

Hypothesis No	Hypothesized Path	Path Coefficient	T-Value	Decision	f^2 Effect Size	q^2 Effect Size
H2	Conservatism Bias \rightarrow Trading Behaviors	0.016	0.323	Not supported	0	-0.001
H3	Self-Confidence Bias \rightarrow Trading Behaviors	0.482	8.999**	Supported	0.323	0.100
$R^2 = 0.304$ $Q^2 = 0.119$						

** $p < 0.01$, * $p < 0.05$

Table 6. Hypothesis Testing results, R^2 , Q^2 , Path Coefficients, f^2 Effect Size and q^2 Effect Size for Moderator Model using Two-Stage Approach

Hypothesis No	Hypothesized Path	Path Coefficient	T-Value	Decision	f^2 Effect Size	q^2 Effect Size
H4	Conservatism Bias*Self-Confidence Bias \rightarrow Trading Behaviors $R^2 = 0.328$ $Q^2 = 0.127$	0.139	2.213*	Supported	0.035	0.009

** $p < 0.01$, * $p < 0.05$

when self-confidence bias is introduced into the model as a moderator. The $R^2 = 0.328$, an increase from $R^2 = 0.304$ while the $Q^2 = 0.127$, an increase from $Q^2 = 0.119$.

Additionally, as displayed in Fig. 2, the findings in this study suggest that, when the self-confidence bias is strong, a larger conservatism bias leads to greater level of trading; vice versa, when the self-confidence bias is weaker, a smaller conservatism bias leads to a lower level of trading. Hence, the relationship between conservatism and level of trading behaviour is affected by the moderating effect of self-confidence bias. In other words, the self-confidence bias of investors plays an important role in determining the conservatism bias that eventually affects their trading behaviour. A plausible explanation for this phenomenon is that the selection and interpretation of new information received to support their existing views depend on their optimistic or pessimistic opinion, which is related to the self-confidence bias of the individual. This study suggests that individuals who are often highly optimistic are more susceptible to confirmatory or conservatism biases that predispose them to assume a higher level of risk than those who have a weaker self-confidence bias [21]. Conservatism, as highlighted by Bowden [7], is a tendency for individuals to seek misinterpretation of the new information to support their views due

to cognitive dissonance following discussions with their neighbours who hold different views from their own. Hence, these findings further suggest that self-confidence bias is pivotal in explaining conservatism bias in the trading behaviour of investors.

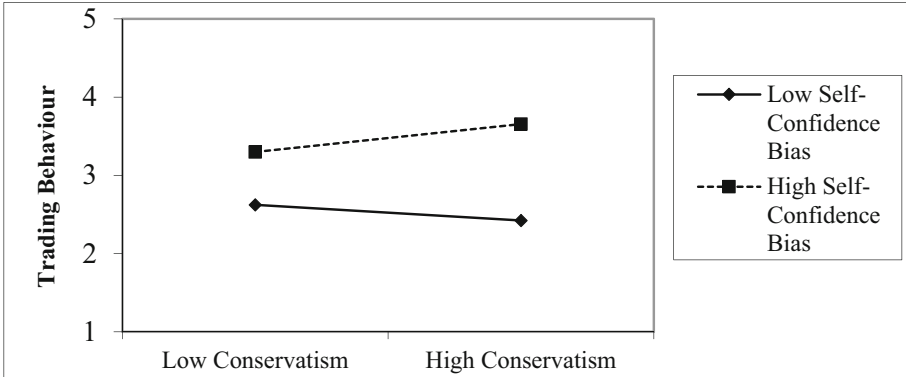


Fig. 2. Interaction Plot for Moderating Effect of Self-Confidence Bias on Conservatism Bias in Trading Behaviour of Investors

5 Conclusion

In determining the effects of self-confidence bias as a moderator in conservatism among the investors in Malaysian Stock Market, self-confidence bias is first hypothesised as an independent variable positively affecting trading behaviour of investors. In this study, self-confidence bias is found to have a positive relationship with trading in retirement planning behaviour as expected. Not surprisingly, self-confidence bias which is largely known as overconfidence effect in the past literatures is found to be one of the most important psychological factors that affects the trading behaviour of investors. Additionally, although conservatism bias is a pervasive characteristic among the individual investors in the prior literature, trading behaviour is not influenced by conservatism bias. This documented result is unexpected and astonishing, as no substantial evidence portrays that many investors would assume more risks to reduce the average price paid for all the shares, as maintained by Mangot [23]. Further to this, contrary to the past findings of Barberis et al. [3], no substantial empirical evidence is found in this study to verify the existence of a conservatism bias tendency among Malaysian investors to pursue further investment in particular shares if they have invested a large amount of money in them. Interestingly, when self-confidence bias is introduced into the model as a moderator, the findings in this study suggest that, when the self-confidence bias is strong, a larger conservatism bias leads to greater level of trading behaviour; vice versa, when the self-confidence bias is weaker, a smaller conservatism bias leads to a lower level of trading. Hence, conservatism in trading behaviour is affected by the moderating impacts of bias in self-confidence. In other words, the self-confidence bias of investors plays an imperative role in determining the conservatism bias that eventually affects their trading behaviour while planning for their retirement.

Besides this, a future study could be conducted to investigate the possibility of using the antecedents of self-confidence bias, such as the use of online brokerage accounts in trading into the model, to enhance the explanatory power of self-confidence bias, as the past study by Barber and Odean [2] illustrates the impact of online trading on the overconfidence effect. Besides this, a future study could incorporate a test of financial literacy into the survey to assess the level of self-confidence bias, as the self-confidence bias in the survey is self-reported and thus may not truly reflect the actual self-confidence bias of the investor. A future study could also apply the current research model in other securities markets, such as derivative markets or mutual funds. Finally, as some of the constructs are modelled as formative and some indicators are retained based on logical content validity instead of statistical validity, further examination of these indicators and their relationship with the constructs are needed to improve the predictive relevance of the model. Furthermore, this study only adopts a quantitative method and relies on a questionnaire as the only instrument for data collection. As the willingness of respondents to answer the questions truthfully may not be consistent, a future study should incorporate a qualitative method and use secondary data as well to analyse the trading behaviour, providing more comprehensive characteristics of investors' retirement planning.

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Assessment of Innovation Types and Business Performance Among MSMEs in Eastern Province of Saudi Arabia

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Abstract. The Kingdom of Saudi Arabia (KSA) seeks to diversify the economy from oil-dependent having realized the unsustainable nature of this resource to economic development in years to come. These warrants given attention to MSMEs in contributing to GDP as stated in the country's Vision 2030. Innovation has become a good channel through which firms drive their own performance which hitherto led to economic growth. This study investigates the level of innovation and the influence of innovation types on business performance of MSMEs in the Eastern province of KSA. The outcome indicates that innovation is at the medium level among the MSMEs and multinomial regression result reveals that while process and organizational innovations are significant in influencing performance, product and marketing are not significant. Furthermore, R&D, age and size of enterprises significantly influence the business performance. Government should create better support to motivate firms to continuously engage in research and innovation.

Keywords: Innovation · Business performance · Micro · Small and medium enterprises · Multinomial regression · Kingdom of Saudi Arabia

1 Introduction

Micro, Small and Medium Enterprises (MSMEs) have played a significant role to the economic development in several countries around the world, mainly because MSMEs have the ability to create job opportunities, contribute to the countries' output, as well as their exports [1–3]. MSMEs are the driving forces that enhance entrepreneurship, innovation, competitiveness, and wealth creation [4, 5]. Saudi Arabia recognizes the importance of SMEs in future years, and their powerful impact on the Kingdom's economy. SMEs provide job opportunity and foster economic empowerment for the Saudis younger generation, reduce poverty, contribute to regional development, and the sector allows exploring a new innovation area and discover more entrepreneurs [6]. Saudi Arabia's "Vision 2030" has given MSMEs a great attention as being part of diversifying the economy but SMEs presently contribute only 20% to the Gross domestic product (GDP), meanwhile, other countries achieved significantly higher contribution. Thus, one of the Vision 2030 desirable goals is to increase the contribution of SMEs to the national output from 20% up to 35% [7]. Small and Medium Enterprises General Authority 'Monshaat'

have been initiated to make sure that SME sector is the primary engine for economic development in Saudi Arabia [6]. Meanwhile, innovation has been recognized as one of the channels through which firms remain competitive and profitable in the economy [8, 9].

Innovation among SMEs becomes strategically important for the reason that innovation allows a competitive advantage to firms, industries, and the entire economies. In spite of the fact that it is challenging for SMEs to generate a continuous stream of profit over time because of the increasing levels of competition in the market, however, innovation is critically important for SMEs to boost profitability, and enhance the competitive advantage [10–12]. A lot of firms have undertaken research and development (R&D) activities in order to generate innovations (in terms of new products, process, marketing methods, and organizational structure) in the long run, and hence, leading to business performance improvement in both profitability and productivity [13].

There are studies in both advanced and developing countries regarding technology innovation and business performance [8, 14–17]. There is a dearth of study on innovation and business performance among MSMEs in the gulf countries in general, and Kingdom of Saudi Arabia (KSA) in particular. Similar studies in the gulf countries [18, 19] could be trickled down to a particular sector or industry such as food and beverage sector, manufacturing sector and service sector among others. Thus, assessing the status and types of innovation and their influence on business performance among the MSMEs in Saudi Arabia become pertinent towards improving the contribution of SMEs to GDP in Saudi Arabia.

The rest of the paper includes literature review, methodology, discussion of results and conclusion of the study in Sects. 2, 3, 4 and 5 respectively.

2 Literature Review

2.1 Innovation and R&D Status in Kingdom of Saudi Arabia

The economy of Saudi Arabia has evolved over the past years, after depending mostly on the oil industry as the kingdom's main source of productivity and the engine of economic growth. However, the country is working toward diversifying the economy through shifting its oil-based to a knowledge-based economy [20] and increasing the SMEs contribution to the GDP accordingly. In order to increase productivity and maximize profitability of the SMEs, the firms are expected to actively engage in research and development and innovation.

When examining the status of innovation activities on the national-level, it can be observed that Saudi Arabia has successfully engaged in several technological and innovation activities, such as the innovation activities in King Abdulaziz City for Science and Technology (KACST), Dharan Techno Valley, King Abdullah University of Science and Technology (KAUST), King Abdullah Economic City (KAEC), forthcoming King Salman Energy Park (KSEP) and many entrepreneurship centers among others [21]. All of these projects represent a platform for technological innovation which provide various research and endowment funds fostering an enabling eco-system for start-ups and existing companies by enhancing their growth.

The Global Innovation Index (GII) report [22] provides measurements on GII to indicate the innovation performance of 132 countries around the globe, Saudi Arabia improved greatly from 61 in 2018 to 48 in 2023 which is now among global top 50. The country was behind UAE, Qatar, and Kuwait in GCC region as at 2018 but now ahead of all GCC countries except UAE in 2023.

2.2 Empirical Literature on Innovation and Firm's Performance

Innovation is a process whereby companies acquire and implement the strategy in producing goods and services which are new to them [23]. Organization for Economic Cooperation and Development (OECD) Oslo Manual [24] based on Schumpeter's description of innovation, propagated four different innovation types. This includes product and process innovations which are classified as technological innovation, whereas marketing and organizational innovations are classified as non-technological innovation. Product innovation is the introduction of new or improved products/services, and process innovation is the introduction of a new process/method of producing goods/services or the improvement of the existing process. Also, marketing innovation includes introduction of new or significant changes in sales/distribution method and packaging of goods and services, whereas organization innovation includes major changes to the organization of work within the enterprise and in relation to other firms. Innovation, whether technological (product and process) and/or non-technological (marketing and organizational), has been used as a strategic tool to economically compete in the market in order to improve business performance and maximize the profit [25].

A study conducted in the Ghanaian banking sector using structural equation model revealed that all the innovation types except organizational innovation have positive and insignificant influence on the bank's performance [26]. Muharam et al. [27] used partial least square method to find out that process and market innovations have positive and significant influence on financial performance of the Indonesian's pharmaceutical industry. Meanwhile, the results further showed that while disruptive technology moderate the linkage between process innovation and firm performance, it did not between market innovation and firm performance. Base on the sample of 240 enterprises in Kenya, another study [28] using SEM averred that technology innovation affects firms' performance positively, hence recommend the development of innovative strategies by the entrepreneurs to foster firm performance.

Augusto et al. [15] conducted a study among 229 Portuguese firms in the manufacturing industry, this study examined the mediating role of innovation on performance. The result of their study using structural equation model revealed that all the innovation types have significant effect on the performance of a firm. This innovative capacity is said to be hierarchical in nature which warrants the firm to take cognizance of the role of innovation in the development of organizational competitiveness. Another similar study that had been undertaken by [17] in the service sector showed that technology innovation and R&D positively influence firms' performance. In addition, Akinwale [10] studied the relationship between R&D, innovation, and business performance proxied by profitability among 150 firms in the Nigerian oil and gas sector. Using structural equation model the researcher found that R&D and all the innovation types significantly influence the business performance. A study of manufacturing sector in Spain found that

organizational and technological innovations have positive and significant influence on financial performance of firms [29].

A related study conducted in Saudi Arabia over 33 non-profit firms by [16], whereby the researchers evaluated the relationship between organizational innovation and performance. After surveying the sample, the study used the correlation and the regression analysis techniques, and found that organization innovation is an excellent predictor of organizational performance. Akinwale [18] in his study of the food and beverage sector in Saudi averred that process and marketing innovations have significant influence on the firm performance whereas product and organizational innovations were not significant among firms in the food and beverage sector. There are few other studies [29] which also found the insignificance of innovation on firm performance.

It could be deduced from the literature that though the association between types of innovation and business performance have been relatively explored, yet the results from such studies are inconclusive. While the results of some of the studies are varied across the industries, there is none of such study that has been conducted among the MSMEs in Saudi Arabia without limitation to a particular industry, hence necessitates this study. This study hypothesizes that product (H1), process (H2), marketing (H3) and organizational innovation (H4) positively and significantly influence business performance of MSMEs. In addition to this, R&D expenditure is also hypothesizing to significantly influence business performance.

3 Methodology

The data for this study was collected between the last quarter of 2018 and third quarter of 2019 through a survey using a questionnaire similar to that of Community Innovation Survey (CIS) 4. The CIS 4 is meant to investigate the innovation phenomena at the firm level. The questionnaire was administered on the SMEs owners and/or top managers of the firm. This study utilized multi-stage sampling technique whereby purposive sampling technique was first deployed to focus mainly on the MSMEs in the Eastern Province including Dammam, Khobar, Doha, Dhahran, Jubail, and Alahsa cities; and secondly random sampling technique was used to administer the questionnaire on the owners or managers of the MSMEs without given any preference to any firm in particular. According to Small and Medium Enterprises General Authority 'Monshaat' a firm that possesses 1 to 249 full time employees is considered to be a MSME in this study as the classification according to revenue might be difficult to obtain by the researchers within the timeframe. Also, pilot test was conducted in Dammam city with 5 MSMEs so as to improve the structure and the content of the questionnaire, and to facilitate an easier understanding of the questionnaire. The size of the sample was determined through the formula developed by Cochran [30], and which is usually used in studies with unknown population, and it gave 271 as the outcome required for the sample size. Out of the 271 responses expected, only 193 responses were properly filled representing approximately 71% of the total responses expected.

Since the focus of the research is to measure the effect of innovation types on business performance, the business performance which is the dependent variable is measured by financial turnover of the firms as at the last accounting period. The independent variables

which are the types of innovation are measured in 5 ordinal scale from “not at all/very low” to “very high” extent. Product innovation measures the extent to which the firm introduces new product/service or significantly improve the existing one; and process innovation measures the extent to which the firm introduces a new production/operational process or significantly improve the existing one. Meanwhile, organizational innovation measures the extent to which the firm introduces a new organizational structure, or significantly improve the existing one while marketing innovation measures the extent to which the firm introduces a new or significantly changes in sales and distribution methods such as internet, marketing style, new packaging style etc. The moderating variables used in this study include R&D expenditure of the firm, extent of government support, age and size of the enterprise, and experience of the owners of the enterprise.

Multinomial regression is used for analyzing the results of the study considering the purpose of examining the impact of innovation types on business performance.

4 Results and Discussion

4.1 The Status and Types of Innovation Among MSMEs

Table 1 below shows the types of innovation among SMEs in Eastern Province of Saudi Arabia. Respondents were asked to state the extent to which their enterprises have introduced new or significantly improved an existing one in term of new product or service; production or operation process; the organizational structure; and marketing methods in the last three years. Approximately 33% of the sample stated that their level of engagement in product innovation is high, 31.7% claimed to engage in product innovation on a medium level, 15.7% perform product innovation on a very high level, some of the SMEs (13.6%) do not engage in any product innovation or engage in very low level, few (5.7%) of the sample perform product innovation on a low level.

As for process innovation, 30.4% of the SMEs reported that they engage in process innovation on a high level, 28.3% of them perform process innovation on a medium level, 16.2% do not engage in process innovation or perform it on very low level at their enterprises, 13% reported that they perform process innovation on a low level, and few (12%) stated that they perform process innovation on a very high level.

Also, 30.9% of the respondents stated that they introduce a new or significantly changed their organizational structure on a medium level, 23% of the respondents do organizational innovation on a low level, 20.9% perform organizational innovation on a high level, some (19.9%) declare that they do not perform organizational innovation or engage in it at very low level, and few (5.2%) respondents preform an organizational innovation on a very high level.

Lastly, 31.2% of SMEs stated that they engaged in marketing innovation on a medium level, 26% are highly performing marketing innovation, 18.2% perform marketing innovation on a low level, some (13.5%) have introduced a new or significantly improve their marketing methods on a very high level, and others (10.9%) either do not engage in any marketing innovation or perform it on a very low level.

It could be observed that majority of them claimed they engage more in technological (product and process) innovation than non-technological (marketing an organizational) innovation, which is against the outcome of Schmidt and Rammer [31]. The outcome

Table 1. Innovation Types among Eastern Province SMEs

Innovation Types	Description	F	%
Product/Service Innovation	Not at all/Very low	26	13.6
	Low	11	5.7
	Medium	61	31.7
	High	64	32.9
	Very high	31	15.7
	Total	193	100
Process Innovation	Not at all/Very low	31	16.2
	Low	25	13
	Medium	55	28.3
	High	59	30.4
	Very high	23	12
	Total	193	100
Organizational Innovation	Not at all/Very low	39	19.9
	Low	44	23
	Medium	60	30.9
	High	40	20.9
	Very high	10	5.2
	Total	193	100
Marketing Innovation	Not at all/Very low	21	10.9
	Low	35	18.2
	Medium	61	31.2
	High	50	26
	Very high	26	13.5
	Total	193	100

also revealed that although the level of innovation is not totally high among the sampled SMEs but there is somewhat (from medium to high) level of different innovation being conducted by the SMEs in the Eastern province of Saudi Arabia. It is equally important to determine which of them has significant influence on business performance.

4.2 Impact of Innovation Types and Business Performance

Table 2 below presents three models showing the impact of innovation types on SMEs' business performance using multinomial regression. The model tests the innovation types on business performance to capture H1, H2, H3, and H4 with some moderating variables, viz: R&D Expenditure, Government Support, Size of Enterprise, Age of Enterprise, and

Experience. This model conveys that independent variables are jointly significant in explaining 68% of variation of the business performance. The results signify that both process and organization innovations have positive and significant impact on business performance, but product and marketing innovations have negative and insignificant impact on business performance of the MSMEs. More so, R&D, age of the enterprise and size of the enterprise have positive and significant impact on business performance at 5% level of significant, whereas government support and experience of the business owners do not have significant influence on the business performance of the MSMEs despite their positive coefficient values. It could be inferred that the significant influence of age of enterprise on business performance could arise from the knowledge and experience of other technical employees outside the experience of the business owners. This is in line with the argument that the longer the number of years of establishment of the firm which influence the experience curve, the higher the turnover of the enterprise [8, 32].

Table 2. Multinomial regression results showing impact of Innovation on MSMEs Performance with few control variables

Model	Model	
Explanatory Variables	β	p-value
Marketing Innovation (X_1)	-0.03	0.72
Organization innovation (X_2)	0.24	0.04
Product innovation (X_3)	-0.11	0.43
Process Innovation (X_4)	0.46	0.02
R&D Expenditure (X_5)	0.13	0.015
Government Support (X_6)	0.05	0.61
Size of Enterprise (X_7)	0.69	0.001
Age of Enterprise (X_8)	0.51	0.003
Experience of the owner (X_9)	0.12	0.621
Constant	0.43	0.363
F-Statistic	9.38	0.001
Probability (F-Statistic)	0.0001	
R-squared	0.68	

Dependent Variable: Business Turnover

Table 3 summarized the results of the model discussed in Table 2 regarding the hypotheses 1 to 4 as per the impact of innovation types and business performance. Hypotheses 1 and 3 regarding product innovation and marketing innovation are rejected in the model. Hypothesis 2 and 4 regarding process innovation and organization innovation could not be rejected. While the result is not in line with many studies which found all the innovation types significant in influencing performance [29], it is in line with few other studies which found one or more innovation types not significant on

business performance [14, 15, 26]. It can be inferred from the above that the level at which MSMEs engage in product and marketing innovation have not made significant positive impact on their business performance. There is a need for firms to come up with innovative ideas to bring forth new products as well as engage in special branding, packaging and various new ways to present their product/service to their potential customers. Also, R&D expenditure by the MSMEs has reflected a significant influence on business performance which signifies the importance of earmarking certain fund for research by the small businesses yearly. The government support though positive but not significant, hence, government should further bolster her support for MSMEs and such supports should be properly channeled so as to have impact on the performance of MSMEs. The supports could come in various ways such as funding some of the research that would improve the small businesses performance, tax rebate on R&D and innovation activities of the firms and creating an enabling eco-system which would support MSMEs among others.

Table 3. Summary of the Hypotheses Results

Hypotheses	Decision
H ₁ : Product innovation is positively significant on BP	Reject Hypothesis in Model 1 and 2
H ₂ : Process innovation is positively significant on BP	Accept Hypothesis in Model 1 and 2
H ₃ : Marketing innovation is positively significant on BP	Reject Hypothesis in Models 1 and 2
H ₄ : Organizational innovation is positively significant on BP	Accept Hypothesis in Model 1 and 2

BP indicates business performance

5 Conclusion

This study investigated the status and types of innovation among SMEs, and assessed the impact of innovation on MSMEs' business performance. The study revealed that innovation is mostly at the medium level among the MSMEs in the Eastern province of Saudi Arabia as indicated by the extent of adoption of innovation types by the firms. Furthermore, the results of the influence of innovation types on business performance indicate that while process and organizational innovations are positive and significant, product and marketing innovation are not significant in influencing business performance among the MSMEs. More so, R&D spending, age of the enterprises and size of the enterprises are moderating factors which are significant in influencing performance.

The managerial implications of this study are embedded in the important role that both technological and non-technological innovations play on business performance. It could be inferred from results that new/improved methods applied by the firms as well as new and improved organizational structure significantly influence the financial performance of the firm. Therefore, the firms should continuously come up with an improved

method of carrying out their businesses as well as restructuring their organizations to better serve their customers. The MSMEs should incessantly embark on R&D which would serve as the base for the firm's innovation activities. Further study could be conducted on the entire provinces of the KSA so as to have a broader and more robust data set. Furthermore, studies related to the larger firms could also be conducted.

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Development of Human Capital Embedded in Socially Innovative Educational Practices

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Abstract. This paper investigates the effectiveness of innovative pedagogical methods in entrepreneurship education within the United Arab Emirates (UAE). It delves into the roles of experiential learning in fostering an entrepreneurial mindset, empowering marginalized groups, particularly women, and enhancing human capital development. The findings aim to contribute to the broader discourse on entrepreneurship education, highlighting its impact on socio-economic inclusivity and innovation-driven entrepreneurship. Entrepreneurship education has gained immense attention in recent years as a critical tool for economic development and innovation. The United Arab Emirates, with its vision for a diversified and knowledge-based economy, has recognized the pivotal role of entrepreneurship in achieving these goals. Consequently, it has invested heavily in entrepreneurship education programs. This paper investigates the effectiveness of innovative pedagogical methods in enhancing the impact of these programs.

Keywords: Women Entrepreneurship · Education · Innovation · Experiential Learning · Human Capital · UAE

1 Introduction

In recent years, the global landscape of entrepreneurship has undergone a significant shift, with nations placing an increased emphasis on innovation as a precursor to entrepreneurial success. The United Arab Emirates (UAE) is no exception, given its strategic objectives to diversify the economy and foster a culture of innovation among its youth. Central to this vision is the role of education, more specifically, innovation education, and its capacity to instill entrepreneurial values, skills, and mindset. This research delves deep into the fabric of the UAE's entrepreneurial ecosystem to discern the transformative effects of innovation education. The aim is not just to elucidate its impact on shaping entrepreneurial mindsets, but also to explore its potential in promoting inclusivity, inspiring women to tread on entrepreneurial paths, and ultimately, reshaping the socio-economic landscape of the UAE.

1.1 Experiential Learning and Entrepreneurial Mindset

Experiential learning is a core component of innovative pedagogical methods in entrepreneurship education (Kolb 1984). This approach encourages students to learn by doing, providing real-world experiences that mirror the challenges and opportunities of entrepreneurship (Mwasalwiba 2010). In the UAE, initiatives like startup incubators, accelerators, and business plan competitions offer students hands-on experience, fostering an entrepreneurial mindset characterized by creativity, risk-taking, and problem-solving (Elenurm 2012). Such a mindset is crucial for aspiring entrepreneurs and contributes to a culture of innovation in the UAE (Fayolle et al. 2006).

1.2 Empowering Marginalized Groups, Particularly Women

Women's participation in entrepreneurship is a key component of socio-economic inclusivity. In the UAE, women have made significant strides in the business world, and innovative pedagogical methods play a crucial role in empowering them (Hermayen, Tarique, Bhardwaj, Bishnoi, and Gupta 2022).

Entrepreneurship education programs tailored to the needs and challenges faced by women provide them with the skills and confidence to become successful entrepreneurs (Brush et al. 2006). The UAE government has also introduced policies and initiatives to support women in entrepreneurship, making it a more inclusive and gender-balanced sector (UAE Gender Balance Council 2019).

1.3 Enhancing Human Capital Development

Entrepreneurship Education contributes to the development of human capital, a key driver of economic growth (Audretsch and Keilbach 2004). Innovative pedagogical methods ensure that students not only acquire knowledge but also develop practical skills, critical thinking abilities, and a proactive attitude (Henry et al. 2005). The UAE's commitment to entrepreneurship education has led to the creation of a highly skilled workforce capable of driving innovation and contributing to the country's economic diversification (OECD 2016).

1.4 Socio-economic Inclusivity and Innovation-Driven Entrepreneurship

The findings of this study demonstrate that innovative pedagogical methods in entrepreneurship education in the UAE have a positive impact on socio-economic inclusivity and the promotion of innovation-driven entrepreneurship. By fostering an entrepreneurial mindset, empowering marginalized groups, and enhancing human capital development, these methods contribute to a more inclusive and dynamic entrepreneurial ecosystem (Baumol 2004). This, in turn, supports the UAE's vision of becoming a global hub for innovation and entrepreneurship.

Innovative pedagogical methods in entrepreneurship education are instrumental in nurturing entrepreneurial mindsets, empowering marginalized groups, and enhancing human capital development in the UAE. These methods have a significant impact on socio-economic inclusivity and the promotion of innovation-driven entrepreneurship. By

continuing to invest in entrepreneurship education and adopting innovative pedagogical approaches, the UAE is poised to further strengthen its position as a leader in the global entrepreneurial landscape.

2 Literature Review

The bedrock of entrepreneurial education has traditionally been built upon theoretical foundations, often devoid of the pragmatic intricacies that truly encapsulate the entrepreneurial journey. Notably, Pittaway and Edwards (2012) systematically reviewed the prevailing paradigms of entrepreneurship education and deduced that there was an inherent inclination towards theoretical approaches. Such methodologies, while valuable in imparting academic knowledge, often fall short of equipping learners with actionable skills and experiential insights.

Neck and Greene (2011) further reiterated this sentiment, asserting that the world of entrepreneurship is fraught with ambiguities and uncertainties. Traditional pedagogies that rely heavily on linear problem-solving techniques are ill-equipped to train budding entrepreneurs in navigating this volatile landscape. To truly prepare students for the dynamic world of entrepreneurship, there is an unarguable need to immerse them in the entrepreneurial process – a holistic experience encompassing creativity, opportunity analysis, resilience, and real-time problem solving.

While much has been written about the pedagogical methods in entrepreneurship, there remains a glaring gap in the literature about specific groups: women and marginalized segments of society. Despite the substantial socio-economic contributions these groups can offer, there is limited empirical data on how innovation education influences their entrepreneurial aspirations and actions. This research aspires to bridge this void, shedding light on the potential of innovation education as a tool of empowerment, especially for these often-overlooked demographics.

The Middle East and North Africa (MENA) region presents a unique canvas for this investigation. Characterized by its youth demographic bulge and economic diversification objectives, nations like the UAE are at the cusp of an entrepreneurial revolution. Alkasmī et al. (2018) spotlighted the MENA region's thrust towards harnessing the entrepreneurial vigor of its youth. The UAE, in particular, with its visionary leadership, seeks to pioneer this movement, transforming its oil-based economy into a knowledge-driven one. Central to this transformation is the role of Higher Education Institutions (HEIs). They are perceived not merely as academic institutions but as crucibles where entrepreneurial aspirations are forged, refined, and realized.

However, not all seems rosy in the academic corridors of the UAE. Critiques from scholars like Mwasalwiba et al. (2012) and O'Connor (2013) highlight the shortcomings of prevalent entrepreneurial education systems. The overarching consensus is a clarion call for a pedagogical shift – moving away from conventional, theory-heavy curricula to ones that are experientially rich, contextually relevant, and most importantly, inclusive.

3 Methodology

The nature of this study necessitates a research design that delves beyond surface-level observations and numerical datasets. It seeks to capture the essence of student experiences, perceptions, and sentiments regarding innovation and entrepreneurship education. Consequently, an interpretivist research approach was deemed the most fitting. Rooted in the belief that reality is socially constructed and subjective, this approach provided a conduit to tap into the lived experiences of undergraduate students in the UAE.

In line with the interpretivist paradigm, a qualitative research method was chosen. Qualitative methods, by virtue of their explorative and interpretative nature, are adept at providing a holistic view of a phenomenon, making them particularly suitable for this study (Tenny, Brannan, and Brannan 2022).

They allow for the discovery of underlying motivations, attitudes, and feelings of participants, offering insights that quantitative methods might overlook.

The theoretical scaffolding for this research was provided by grounded theory. Developed by sociologists Glaser and Strauss in the 1960s, grounded theory is a systematic methodology that operates inductively, with the aim of constructing theory from data. It's characterized by its iterative processes, where data collection and analysis are intertwined, leading to the organic development of theory rooted in empirical evidence. (Glaser and Strauss 1967).

To garner rich, detailed accounts, data collection was conducted through in-depth semi-structured interviews and a focus group session. The use of semi-structured interviews offered a balance between structure and flexibility. A set of predetermined open-ended questions ensured that key areas of interest were covered with each participant, while also allowing for spontaneous probes and follow-ups based on participants' responses. This design not only catered to the research objectives but also gave voice to the participants, allowing them to share narratives and experiences that they deemed significant. (King 2019).

The focus group, on the other hand, facilitated interaction among participants, enabling the emergence of collective perspectives, shared experiences, and even disagreements, all of which provided a multifaceted view of the central research theme. (Morgan 1997).

The subsequent data analysis was anchored in grounded theory's coding procedures. The initial stage involved open coding, wherein raw data was dissected into discrete parts, closely examined, and labeled. This process allowed for the identification of emergent patterns and themes. Axial coding then helped in organizing these themes, finding relationships between them, and integrating them into a coherent framework. The final stage, selective coding, distilled the data further, refining and consolidating the core themes until a comprehensive theory, grounded in the data, emerged. (Charmaz 2006).

To ensure the rigor and authenticity of findings, the research maintained a reflexive stance throughout, continually revisiting the data, checking for biases, and ensuring that interpretations were rooted in participants' perspectives and not researcher-induced constructs.

Unraveling the complex tapestry of students' perspectives, experiences, and aspirations, the findings of this study provide compelling insights into the landscape of innovation and entrepreneurship education within the UAE.

4 Results and Discussions

A recurrent theme that emerged was the pronounced effectiveness of experiential learning approaches. Students consistently reported feeling more engaged, challenged, and enlightened when pedagogies transcended traditional theoretical boundaries. Immersive experiences, real-world problem-solving tasks, and hands-on projects were particularly lauded for fostering a deep-seated understanding of entrepreneurial nuances. Notably, students who were exposed to such pedagogies displayed a heightened sense of entrepreneurial acumen, showcasing superior problem-solving skills, critical thinking capabilities, and an innate ability to think “outside the box”. This aligns with the broader academic discourse that emphasizes the need for active, experiential learning in entrepreneurship education, as echoed by scholars like Pittaway and Edwards (2012) and Neck and Greene (2011).

The transformative potential of innovation education became particularly evident when examining its impact on historically marginalized segments, especially women. Female participants, in particular, reported heightened self-efficacy, confidence, and a renewed zeal to pursue entrepreneurial ventures. Encouragingly, many attributed this empowerment to tailored educational interventions that addressed gender-specific barriers, biases, and challenges. Such findings are particularly poignant given the global underrepresentation of women in entrepreneurial spheres and underscore the power of education in bridging this gap.

Beyond women, the broader theme of inclusivity resonated in the narratives of other marginalized groups. Tailored modules that acknowledged, respected, and catered to their unique socio-cultural contexts, challenges, and aspirations were identified as pivotal in fostering an inclusive entrepreneurial culture. In doing so, innovation education not only acts as a catalyst for individual empowerment but also as an instrument for broader socio-economic transformation.

Central to the entrepreneurial journey is the belief in one’s abilities, and this research revealed the seminal role of innovation education in fostering self-confidence and self-efficacy among students. Participants overwhelmingly reported feeling better equipped and more confident in their skills post their exposure to innovation-centric modules. This was not merely restricted to entrepreneurial skills but extended to life skills such as resilience, adaptability, and critical thinking. Such heightened self-efficacy is instrumental to navigate the often-tumultuous entrepreneurial landscape, as it equips students with the mental fortitude to face challenges, adapt to changing circumstances, and persevere in the face of adversity.

In sum, the results underscore the multifaceted and transformative effects of innovation education within the UAE context. It emerges not just as a conduit for imparting skills, but as a potent tool for empowerment, inclusivity, and socio-economic transformation.

5 Conclusions and Recommendations

The shifting dynamics of the global economy, intertwined with technological advancements and ever-evolving societal expectations, place unprecedented demands on the world of entrepreneurship. Within this milieu, the importance of fostering a robust,

innovative, and inclusive entrepreneurial ecosystem becomes paramount. (Abdul Gha-far et al. 2023). The present study, set against the vibrant backdrop of the UAE, provides crucial insights into the transformative role of innovation education in shaping this ecosystem.

From the intricacies of pedagogical approaches to the empowerment narratives of women and marginalized communities, the findings underscore the multifaceted benefits of experiential and innovative educational methodologies. It is evident that a shift from traditional, theory-laden pedagogies to more immersive, real-world, and inclusive approaches can catalyze entrepreneurial aspirations, foster self-efficacy, and engender socio-economic transformation. Furthermore, the unique socio-cultural fabric of the UAE, characterized by its diverse populace and visionary leadership, offers a fertile ground for such pedagogical innovations to flourish.

In light of the findings, the following recommendations are put forth:

Pedagogical Innovations: Higher Education Institutions (HEIs) in the UAE should actively integrate experiential learning methodologies into their curricula. This could include immersive industry internships, real-world problem-solving projects, and entrepreneurial simulations.

Inclusive Curricula: Courses should be designed with an emphasis on inclusivity, addressing the unique challenges, barriers, and aspirations of women and marginalized communities. Tailored modules that provide mentorship opportunities, address gender-specific biases, and celebrate entrepreneurial success stories from diverse backgrounds can be particularly impactful.

Faculty Training: To successfully implement innovative pedagogies, faculty members need to be equipped with the requisite skills and knowledge. Regular training sessions, workshops, and exposure to global best practices in entrepreneurship education can ensure that educators are at the forefront of pedagogical innovations.

Stakeholder Collaboration: A collaborative approach, involving academic institutions, industry leaders, policymakers, and student representatives, can ensure a holistic development of the entrepreneurial ecosystem. Regular dialogues, feedback mechanisms, and partnerships can foster a cohesive, dynamic, and responsive educational landscape.

Research and Feedback: Continuous research into the evolving needs of the entrepreneurial world, coupled with regular feedback from students and stakeholders, can ensure that the curricula remain relevant, dynamic, and impactful.

In closing, the transformative potential of innovation education is evident, but harnessing this potential requires concerted efforts, visionary leadership, and a commitment to continuous improvement. The UAE, with its aspirations of becoming a global entrepreneurial hub, is well-poised to lead this change, provided it embraces the lessons, insights, and recommendations illuminated by this research.

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The Relationship Between Ownership Structure (OS) and the Quality of Corporate Social and Environmental Responsibility Disclosure (CSERD) with the Moderating Effect of the Industry Type

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Abstract. In this study, the association between ownership structure (OS) and the quality of CSERD is examined with industry type as a moderator variable in Malaysian public listed companies (PLCs)' annual reports. Only two of the four variables, government ownership and foreign ownership, are found to be positively associated with the quality of CSERD by this study's findings. There is a significant association between managerial ownership and the quality of CSERD, it is important to note that this relationship is inverse in nature. While Bumiputera Muslim ownership is found to be insignificant. This study also confirmed that the industry type variable moderates the relationship for two of the variables namely government ownership and Bumiputera Muslim ownership.

Keywords: The Quality CSERD · Ownership structure · Annual reports

1 Introduction

Corporate Social Environmental Responsibilities (CSER) programs have recently received increased attention from stakeholders due to the growth of social activities in business world (Ahmad et al., 2023). Effective CSER practice and function, according to authors like Lin et al. (2019) and Wang et al. (2018), may lessen the reduce the incidence of fraudulent financial practises and increase the dependability of financial reporting. Transparency, information asymmetry, and managerial interests will all be reduced by improved CSER processes (Choi et al., 2020). Additionally, CSER initiatives assist efficient corporate governance (Rahman and Masdupi, 2021), build corporate image, fit with market and investor expectations, and enhance environmental sustainability (Wang et al., 2018; Ahmad et al., 2023).

The execution of CSER and Corporate Social Environmental Responsibilities Disclosures (CSERD) practices is thus significantly influenced by OS as part of corporate

governance mechanisms (Ashfaq and Rui, 2019; Lin and Nguyen, 2022; Zaid et al., 2020). According to a number of researchers, different ownership structures may have an impact on how and where a company invests in society (Ahmad et al., 2023; Barnhart and Rosenstein, 1998; Baysinger et al., 1991), which may then affect decisions about CSER and CSERD engagement (Lee, 2009; Lin and Nguyen, 2022). Therefore, it is crucial for Malaysian enterprises to place a high priority on a good CSER performance. The link between OS and CSER performance is crucial for accomplishing this goal (Al Amosh and Khatib, 2021; Lee, 2009; Lin and Nguyen, 2022).

The objective of this study is to ascertain the impact of four OS variables (managerial ownership, foreign ownership, government ownership, and Bumiputera Muslim ownership) on the quality of CSERD in Malaysian PLCs. Despite the increasing significance of both OS and CSERD, less scholarly attention has been devoted to investigating their relationship (Ahmad et al., 2023; Dakhli, 2021; Lin and Nguyen, 2022; Zaid et al., 2020). In addition, this paper adds new knowledge to the body of existing literature by shedding light on how industry type influences the links between OS and CSERD quality.

The following section of this article is presented in the subsequent manner. The research commences with a literature review and the subsequent development of a hypothesis, followed by the research methodologies employed. Subsequently, the findings of the research are disclosed. In conclusion, this paper ultimately reaches its last point.

2 Literature Review and Hypothesis Development

2.1 CSER and CSER Disclosure

The World Business Council for Sustainable Development (WBCSD) defined CSER as a business commitment to raise the standard of living for its stakeholders, including employees and society, by integrating sustainable economic development into business operations. In other words, CSER stands for a business strategy that took into account how its operations will affect society at large and the environment (Hussin et al., 2021). CSERD is described by Gray et al. (2001) as the dissemination of information reflecting social accountability through a variety of venues, including annual reports. It is the way a company creates and communicates to the public its public image (Neu et al., 1998). A previous study revealed a positive association between CSER and CSERD. Simply put, companies who participate in CSER activities typically disclose CSER information in greater detail than companies that do not. This is motivated by their desire to openly communicate the impact of their socially responsible initiatives to stakeholders (Gelb and Strawser, 2001).

2.2 OS and CSERD

Government Ownership (Govown)

Government ownership (Govown) is another well-known aspect of corporate environment in Malaysia (Ghazali, 2010). However, prior research has shown conflicted findings concerning the connection between Govown and disclosure practices. Studies by several authors such as Albawwat and Basah (2015), Al Amosh and Khatib (2021), Eng

and Mak (2003), Nasir and Abdullah (2004) found a positive link between Govown and CSERD. However, Al-Janadi et al. (2016) indicated a negative effect of Govown on disclosure levels. While Lagasio and Cucari (2019) stated that there is still insufficient of comprehensive evidence to establish the link between Govown and disclosure in firms. Thus, the first hypothesis is proposed as:

H1: Govown has a positive effect on the quality of CSERD.

Managerial Ownership (Mgmown)

Previous research found varied findings concerning the association between Managerial ownership (Mgmown) and disclosure practices. Coffey and Wang (1998), Leung and Horwitz (2004), Li et al. (2018) and Nasir and Abdullah (2004) reported that Mgmown has significantly and positively linked with voluntary disclosure. In contrast, other studies, such as Al Amosh and Khatib (2021), Eng and Mak (2003), Hossain et al. (1994), Huafang and Jianguo (2007), found a negative relationship. Additionally, some studies, such as Juhmani (2013) and Lagasio and Cucari (2019), found no significant impact. This led to the following hypothesis:

H2: Mgmown has a positive effect on the quality of CSERD.

Foreign Ownership (Forown)

Foreign ownership (Forown) is seen as important contributors enhance the credibility and reliability of a company's disclosures. (Al Amosh and Khatib 2021; Ghazali, 2010). Previous CSER research has documented mixed findings regarding the relationship between Forown and CSERD. Some studies found positive associations (Alhazaimeh et al. (2014); Guo and Zheng (2021); Haniffa and Cooke 2005), while others found no association (Amran and Devi, 2008; Said et al., 2009), or a negative relationship (Abu Qa'dan and Suwaidan, 2019; Saini and Singhania, 2019). As a result, we suggest the following hypothesis:

H3: Forown has a positive effect on the quality of CSERD.

Bumiputera Muslim Ownership (BPMown)

The ethnicity of a company's majority owners can significantly impact its disclosure practices. When Bumiputera Muslim shareholders dominate a company, they tend to adopt strategies to enhance their legitimacy, directing attention towards issues they consider important. Bumiputera Muslims are primarily Muslims, guided by Islamic principles that influence their ethical values. Consequently, matters related to Islam, such as ensuring business operations align with Islamic principles (e.g., providing Halal products or prayer facilities for employees), become priorities for Bumiputera Muslim shareholders (Haniffa and Cooke, 2005). This emphasis on ethical conduct is inherent to Islamic business ethics, suggesting that Bumiputera Muslim -majority companies, driven by their Islamic values, are expected to exhibit greater transparency in their disclosure practices (Haniffa and Cooke, 2002). Consequently, the following is our next hypothesis that:

H4: BPMown has a positive effect on the quality of CSERD.

2.3 The Moderating Role of Industry Type (IT)

As mentioned above most of the studies on OS and CSERD is inconclusive or mixed findings. Therefore, the second aspect of this research is in relation to the ability of Industry type (IT) in triggering the relationship between OS and CSERD. Companies operating in different industries have varying impacts on the social and environment of the country. This impact is influenced by the nature of their operations and activities within those industries (Buniamin, 2010). Companies in industries with a higher social and environmental impact are more inclined to disclose CSER information. This suggests that industry type plays a significant role in shaping a company's approach to CSERD. (Buniamin, 2010; Jaffar and Buniamin, 2004). Based on the information, these hypotheses have been proposed:

H5: IT moderates the relationship between Govown and the quality of CSERD.

H6: IT moderates the relationship between Mgmown and the quality of CSERD.

H7: IT moderates the relationship between Forown and the quality of CSERD.

H8: IT moderates the relationship between BPMown and the quality of CSERD.

3 Research Methodology

This study focuses on Malaysian PLCs, explicitly analysing 347 PLCs on Bursa Malaysia. The primary source of data utilised in this study predominantly consists of pre-existing secondary sources. In line with established methods in past research CSER disclosures. A content analysis approach is applied as shown in studies like Abbott and Monsen (1979), Al Amosh and Khatib (2021), Belal (2001), Fuadah et al. (2022), and Imam (2000). In the realm of CSER research and studies on voluntary disclosure, the use of content analysis in the assessment of annual reports is a generally acknowledged and empirically approved method. This assertion is substantiated by the works of Abbott and Monsen (1979), Al Amosh and Khatib (2021), Fuadah et al. (2022), Gray et al. (1995), Guthrie and Parker (1990), and Guthrie et al. (2004).

3.1 The Variables

The information revealed in annual reports of a corporation can be quantified using a selection of approaches, including words, phrases, paragraphs, images, and pages counting. Prior research, however, had a propensity to overemphasise the volume and variety of disclosures while ignoring the assessment of their quality. The disclosure index approach is utilised in this research to assess the quality of CSERD. The instrument employed in this study to is based on the disclosure index developed by Ghazali (2007). All variables with their measurement are shown in Table 1.

Table 1. All the variables and its definition

Name	Description
Government ownership (Govown)	The ratio of government ownership to total shareholders
Managerial ownership (Mgmown)	The ratio of managerial directors' shareholders to total shareholders
Foreign ownership (Forown)	The ratio of foreign shareholders to total shareholders
Bumiputera Muslim ownership (BPMown)	The ratio of Bumiputera Muslim shareholders to total shareholders
Industry type (IT)	If a company is a Social and environmental sensitive or not - Dichotomous
CSERD	22 points checklist (Ghazali, 2007)

4 Results and Discussion

The results of the regression analysis for our CSERD model are shown in Table 2 below. The F-test result shows that the model is sufficiently reliable (F-test = 46.643, p 0.001). The model's R-squared, at 35.4% R-squared indicates that it has sufficiently explanatory power. Since none of the VIF values exceed 10, interpreting the regression findings does not seem to be impacted by multicollinearity.

Table 2. Regression results

Variables	Predicted Sign	Coefficient	t-value	p-value	VIF
(Constant)		0.342	22.088	0.000	
Independent Variable					
Govown	+	0.376	9.941	0.000	1.322
Mgmown	+	-0.096	-2.736	0.004	1.288
Forown	+	0.118	3.209	0.001	1.027
BPMown	+	0.001	0.806	0.211	1.026
Moderating variable					
IT	+	-0.030	-1.891	0.060	1.067
ITxGovown	±	-0.382	-3.562	0.000	2.435
ITxMgmown	±	0.074	1.087	0.278	3.751
ITxForown	±	0.034	0.464	0.643	2.018
ITxBPMown	±	0.348	5.126	0.000	2.376
R ²	0.354				

(continued)

Table 2. (continued)

Variables	Predicted Sign	Coefficient	t-value	p-value	VIF
F-value	46.643				
N	347				

The results for both empirical models are shown in Table 2. With the exception of BPMown, all the variables have a significant association with CSERD quality. However, Mgmown variable is negatively linked to CESRD. The results imply that better CSER information sharing will not result from increasing managerial ownership levels in Malaysian PLCs.

The results from Table 2 confirm that IT variable moderates two of the independent variables, Govown and BPMown. Both variables’ coefficients are significant at 1%. So, industry type moderates the relationship between Govown and BPMown variables with the quality of CSERD. Thus, H5 and H8 are accepted and the other hypotheses H6 and H7 are rejected.

Table 3 shows the result of hypothesis testing. From the analysis it was found five out of eight hypotheses are accepted. Three hypotheses are, however, rejected.

Table 3. Hypothesis Testing Result

Hypotheses	Findings
H1: Govown has a positive effect on the quality of CSERD	Accepted
H2: Mgmown has a positive effect on the quality of CSERD	Rejected
H3: Forown has a positive effect on the quality of CSERD	Accepted
H4: BPMown has a positive effect on the quality of CSERD	Rejected
H5: IT moderates the relationship between Govown and the quality of CSERD	Accepted
H6: IT moderates the relationship between Mgmown and the quality of CSERD	Rejected
H7: IT moderates the relationship between Forown and the quality of CSERD	Rejected
H8: IT type moderates the relationship between BPMown and the quality of CSERD	Accepted

5 Conclusion

In this study, we explored the relationship between four ownership variables (Govown, Mgmown, Forown and BPMown) and the quality of CSERD in annual reports of Malaysian PLCs. We also considered the variable IT as a moderating factor. The results from the full regression model showed that only Govown and Forown variables are significantly and positively associated with CSERD quality. Unexpectedly, Mgmown variable is significant but not as per our predicted direction. Among the four moderation hypotheses, only the moderation effect of IT on the relationship between Govown and BPMown on CSERD quality are significant.

Our study does, however, have several limitations that could guide future research. Firstly, we analysed data for only one year, suggesting the need for longitudinal analyses to track CSERD trends over time. Secondly, our study focused primarily on government ownership, managerial ownership, foreign ownership, and Bumiputera Muslims ownership. Future research could broaden its scope by exploring different ownership variables, for instance family ownership, institutional ownership, and ownership concentration.

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Driver Factors of Successful Woman Entrepreneurs Go Green: A Systematic Literature Review and Future Research Agenda

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Abstract. Recent studies appear to highlight the urgency of green entrepreneurship in sustainable economic development. However, not many studies have explored the formation of green entrepreneurship, including the factors that influence the success of women entrepreneurs to join green entrepreneurship. Therefore, this review aims to enrich the current literature on the factors that influence the success of women entrepreneurs in joining green entrepreneurship. This study uses bibliometric analysis with Publish or Perish software as the database. A total of 31 articles from 2002–2023 were reviewed. The results showed that micro factors related to work behavior, meso factors related to organizational support, and macro factors with government policies and regulations affect the success of women entrepreneurs in entering into environmentally friendly businesses.

Keywords: Green Entrepreneurship · Systematic Literature Review · Driver Factors

1 Introduction

Limited natural resources, increasing world population, and declining biodiversity have become important issues in building a sustainable economy. MSMEs, with their large numbers and vital role in the economy, are called upon to contribute to realizing a cleaner and greener future [1]. Nowadays, green entrepreneurship is considered a solution to realizing a sustainable economy [2]. Going green means implementing entrepreneurship practices to minimize negative environmental impacts and promote resource efficiency [3]. In recent years, MSMEs' awareness of the urgency of going green is getting bigger as there are sustainable practices in their businesses [1, 3, 4]. Going green is not only beneficial to the environment and society but also contributes to the financial success and long-term growth of the Company.

Women entrepreneurs are known as one of the main players in social welfare and economic development in the community [5]. Some literature explains that women tend to engage in environmental practices in running a business. For example, [6] stated that women entrepreneurs are more likely to run businesses with a social purpose, while [7] found that women managers have stronger attitudes and commitments to the environment than men. Specific beliefs and attitudes from women entrepreneurs toward social and environmental issues are indispensable to the development of a sustainable economy [8].

Previous study related to the development of a green economy focuses on the performance of the green industry itself [9]. However, not many studies have explored the formation of green entrepreneurship [10]. Some of the studies provide enough evidence on the motivations, process mechanisms, cognitions, and behaviors of green entrepreneurs [10, 11], including factors that influence entrepreneurs' success in joining green entrepreneurship. Given the importance of women entrepreneurs' focus on measures to protect the environment in managing sustainable development, as well as the lack of study that explores the formation of green entrepreneurship. Therefore, the main goal of this study is to explore the factors that affect the success of women entrepreneurs in joining green entrepreneurship.

2 Method

The systematic review creates a systematic summary of various studies about women's entrepreneurial success based on the green economy. Data were analysed based on the bibliometric analysis protocol from [12] which consists of 1) Determination of search keywords, 2) Obtaining initial search results, 3) Improvement of Search Results, 4) Initial Data Collection, 5) Data Analysis. The stages of bibliometric analysis can be seen in Fig. 1

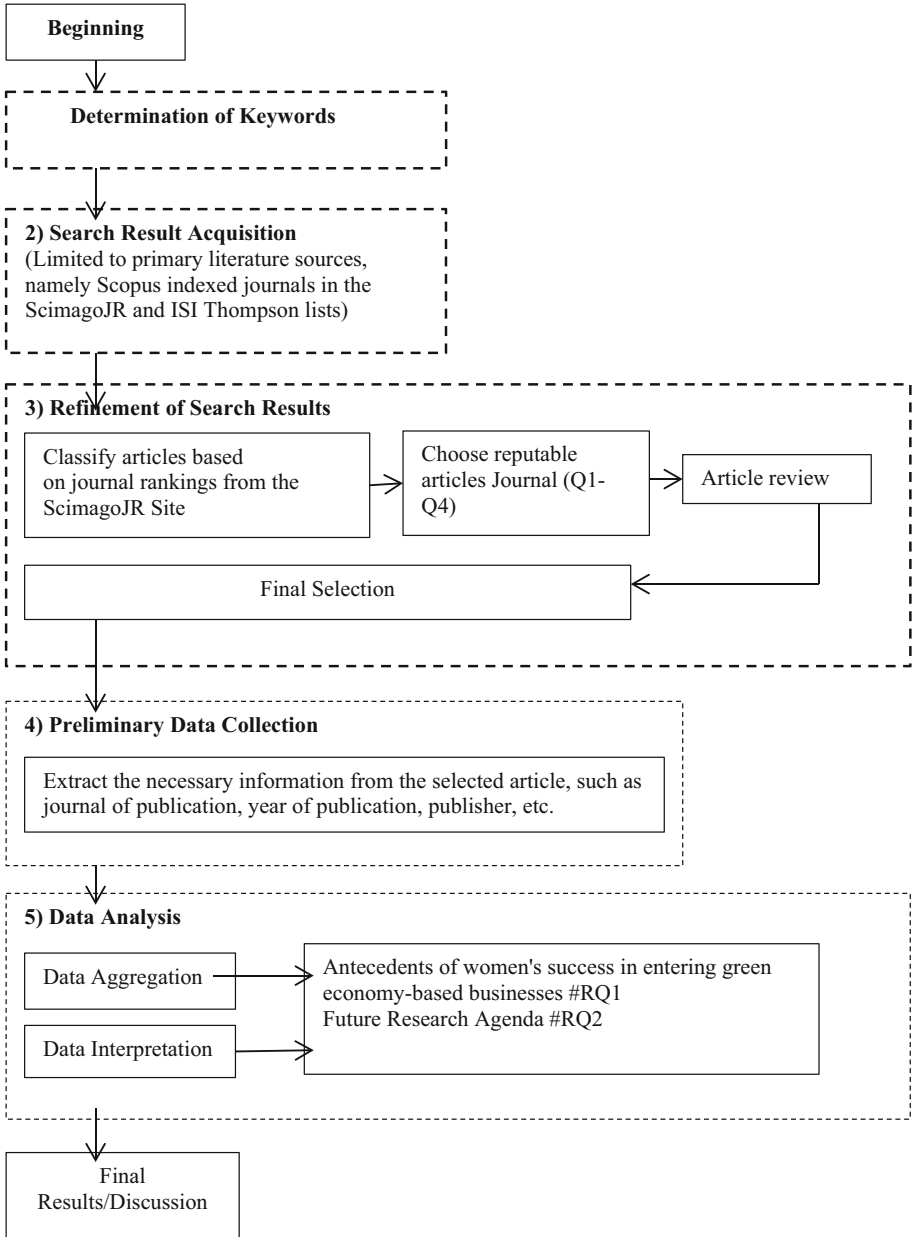


Fig. 1. Stages of Bibliometric Analysis

2.1 Determination of Search Keywords

The first step in this literature study was to find articles relevant to the study topic. On the basis of ease of accessibility, Publish or Perish version 8 software was used to collect data.

The search for articles was limited to primary literature sources, namely Scopus-indexed journals (in the ScimagoJR list) and ISI Thompson, from 2002–2023. The search did not include non-indexed journal articles, conference proceedings, books, magazines, and others. To ensure the search for articles was relevant to the topic, five keywords were used 1) Green Entrepreneur, 2) green entrepreneur performance, 3) woman; green entrepreneur, 4) woman; green economy, 5) Green Entrepreneur; success.

2.2 Result Generation and Improvement of Search Results

The article search used Publish or Perish (PoP) software with a time span of 2002–2023. By using the five keywords described earlier, 64 articles were obtained. Of the 64 articles, 31 were selected and ready for review as shown in Table 1.

Table 1. Article Acquisition

Data Base	Publish or Perish
Years	2002–2023
Source	Scopus
Keywords: Green Entrepreneur; green entrepreneur performance; woman; green entrepreneur; woman; green economyGreen Entrepreneur; success	64 papers
Duplicate record removed	9
Records marked as ineligible by automation tools	8
Not in English	–
Non-Relevant Papers or Articles from unrelated disciplines	16
Paper In Review	31

The articles were then classified according to the ranking based on the ScimagoJR list (Table 2).

Table 2. Number of Articles by Rank

No	Rank*	Number of Articles
1	Q1 Journals	13
2	Q2 Journals	9
3	Q3 Journals	4
4	Q4 Journals	2
5	No Rank journal/Unidentified	3
	Total	31

Note: * Ranked based on ScimagoJR list

2.3 Preliminary Data Collection

The search results that have been narrowed down according to the relevance of the topic are stored in Excel form for later statistical description of the search result data. The first statistic shows the development of topics during the observation years (2002–2023) related to the success of women entrepreneurs based on the green economy (Fig. 2).

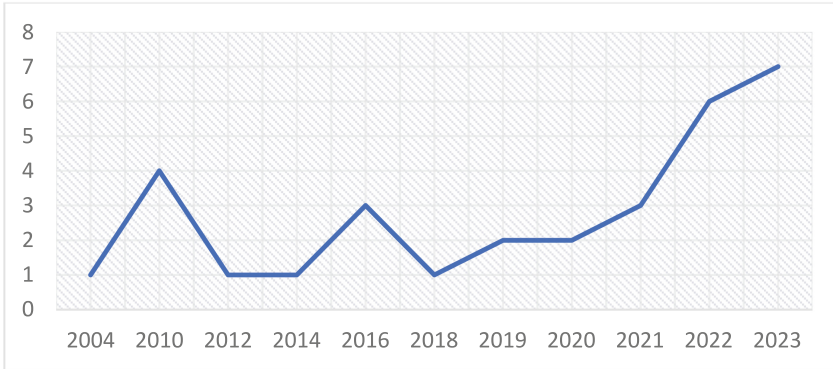


Fig. 2. Number of Publications per Year

The data collection results show that the trend of women’s entrepreneurship studies based on the green economy is not stable but tends to increase over the past 3 years. The United Nations Environment launched the Green Economy Initiative (GEI) in 2008, which consists of global research and country-level assistance that encourages policy-makers to support environmental investment in the context of sustainable development. In line with this, the number of publications has increased over the last 3 years, indicating that the green economy theme has become a hot topic in various countries.

This study also examines the context or place of research related to the topic of women entrepreneurial success based on the green economy. The majority of research was conducted in Asia (32%) and Europe (29%). Research in Asia was conducted in Bangladesh, China, India, Iran, Malaysia, Pakistan and Saudi Arabia. While in Europe it was conducted in France, Israel, Poland, Romania, Russia, Turkey and the UK.

Based on the source of publication, 31 articles were reviewed from 28 international journals published by various leading publishers such as Taylor and Francis Ltd, Springer, Sage, Routledge, Emerald, Elsevier, Inderscience, etc. (Fig. 3).

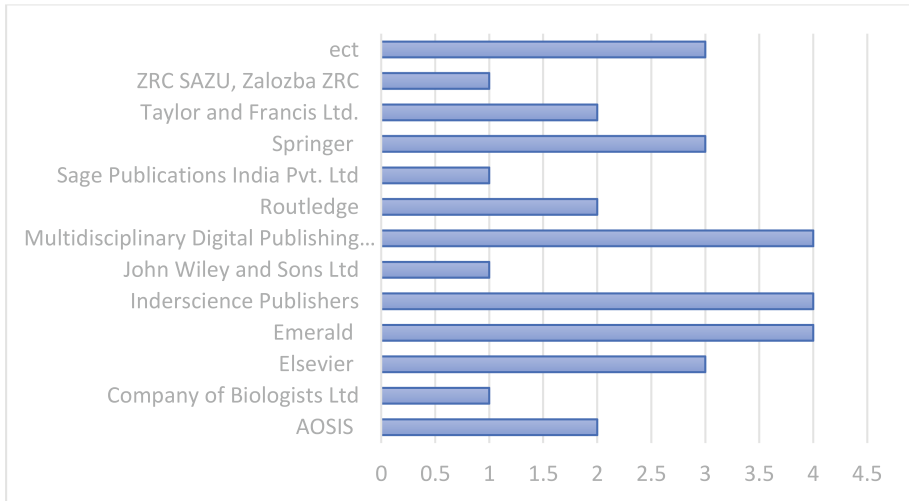


Fig. 3. International Journal Publisher on the topic of green entrepreneur

2.4 Data Analysis

The last step was to analyze the data using Mendeley software. This tool is used to manage information needed in the analysis process, such as abstracts, keywords, and references. Data from Mendeley was transferred into RIS format and then processed by VOSviewer software. This process was carried out to obtain keyword clusters and visualization maps that describe about women entrepreneurs based on the green economy. In addition, the information was recorded in MsExcel to obtain information related to the success factors of women entrepreneurs based green economy.

Figure 4 are graphical illustration of the keywords and abstracts cited in several empirical articles related to the topic of green entrepreneurship. The illustration consists of 12 clusters with 89 items. The purple, blue, yellow, and green clusters indicate high density, meaning that the theme has been extensively researched. The more blurred colors or even invisible items indicate that the theme is still very rarely researched empirically. Figure 4 shows that the themes of green entrepreneurship, green entrepreneur, corporate social responsibility, environmental entrepreneurship, and women entrepreneurs are most frequently used as keywords. Other clusters and items that are not clearly visible in Fig. 4 indicate opportunities for future research on these themes. Environmental finance, environmental policy, environmental regulation, green venture capital, green dynamic bedding, green start-ups, environmental management, pro-environmental behavior, transformative entrepreneur, green human resource management, social entrepreneurship, and social performance are barely studied in green entrepreneurship. These areas could be potential for further research related to green entrepreneurship.

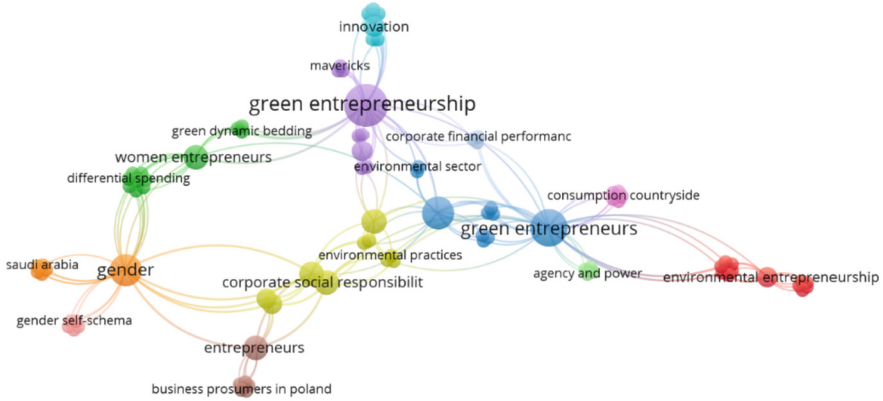


Fig. 4. Network mapping of the literature

3 Results and Discussions

Systematic review is used to identify, assess, and interpret all findings on a research topic, and to answer research questions that have been previously set. The first research question in this study is the factors that influence the success of women entering green economy-based businesses. The second research question is how the future research agenda to solve various research gaps. In this study, the determination of the research theme is based on the Scopus preview that shows the research topic.

3.1 Factors Affecting Women's Success in Entering Green Economy-Based Businesses

One of the objectives of this research is to determine the factors that influence women's success in entering green economy-based businesses. For that, we have categorized these factors at several levels, namely the micro, meso, and macro levels shown in Table 3. The factors that influence the success of women entering green economy-based businesses are the same as the factors that influence entrepreneurial success in general, but some environmental issues are emphasized in this concept. At the micro level including environmental mentality, encouragement and awareness of the environment, skills and knowledge about the production of environmentally friendly products, and green values that exist in a person. At the meso level, there are factors of green organizations, extensive green ads, green branding, green innovation, environmental concern, green human resources management, environmental innovation, environmental assessment methods, environmental commitment, environmental responsibility, ecological footprint, and social/environmental values. At the macro level, there are factors of green entrepreneurship infrastructure, the competitiveness of green products, green

Table 3. Categories of Factors Affecting Women’s success in entering green economy-based businesses

Theme	Factors	Source
Micro Level	Personal Factors: <ul style="list-style-type: none"> • Environ mentality • Encouragement and awareness • Skills and knowledge of green product production • The power of negotiation • Selling skill • Risk-taking • Innovation and creativity • Interest and perseverance • Intrinsic motivation • Entrepreneurial background characteristics: age, gender, professional field, educational level, social capital, experience • Attitude • Individual traits • Competencies • Proactive personality • Green value • Knowledge • Actual behavioral control • Subjective norms 	[4, 8, 10, 13–21]
Meso Level	Organizational Factors: <ul style="list-style-type: none"> • Resource efficiency • Green organizations • Extensive green ads • Organizational culture • Green branding • Communication • Comprehensive cooperation • Networking • Communication networks • Research and development • Knowledge management • Knowledge sharing • Business training • Information and advertising • Sustainable financing • Green innovation/Environmental innovation • Competitive advantage • Social/Green trust • Environmental concern • Social norms • Green human resources management • Innovation culture • Organizational learning • Sustainability transitions • Environmental assessment methods • Managers’ behavior • Environmental Commitment • Environmental responsibility • Ecological footprint • Social/environmental values 	[4, 8, 13–15, 17–25]

(continued)

Table 3. (continued)

Theme	Factors	Source
Macro Level	External Environmental Factor: <ul style="list-style-type: none"> • Social responsibility • Culture • Economic stability • Green entrepreneurship infrastructure • Competitiveness of green products • Government support • Government oversight procedure • Political and legal stabilization • Climate change governance • Green building policies • Environmental policy stringency • Environmental regulations • Socio-demographics • Political environment • Exogenous pressures • Climate change risk • Environmental technology 	[4, 8, 14, 19, 20, 23, 25, 26]

building policies, environmental policy stringency, and environmental regulations that affect women’s success in entering a green economy-based business.

Micro-level factors include individual characteristics and psychological factors of the entrepreneurs themselves such as knowledge, skills, abilities, motivation, competence, personality, attitude, behavior, values, norms, and entrepreneurial background. This factor emphasizes the subjective aspects that can affect the success of women entering green economy-based businesses. For example, in terms of motivation, if someone is motivated to be successful in an environmentally friendly business, they will incorporate strategic goals related to environmental issues into their business plan and translate these goals into operational practices to run the business [3].

Micro-level factors relate to a person’s work behavior which consists of several layers, namely behavior, knowledge, attitude, value, personality, and ability. A person’s personality determines the values and beliefs they accept or adopt. Cognitive abilities determine how quickly they can learn new skills and knowledge, and how well they are applied to new situations. And all of these things have a big impact on the way a person behaves to achieve business success, especially when it comes to green entrepreneurs. Entrepreneurial background affects an entrepreneur’s cognition, these characteristics determine their analysis and decision-making towards the direction of business development, which in turn can affect their business performance [10]. Different characteristics and backgrounds such as age, gender, professional field, level of education, experience, and others, will form the knowledge structure and business philosophy of an entrepreneur that is different from others [10, 14].

Meso-level factors fall between the micro and macro levels. This level focuses on groups or organizations that have shared characteristics. These factors will make it easier for a person to acquire the skills needed to be ecologically friendly [27]. For example, the extensive cooperation of entrepreneurs with research institutions, educational institutions, and government through social networks can create and increase market demand for environmentally friendly products [8]. This can be an incentive for entrepreneurs to

enter the green business area. In addition, resource efficiency efforts in terms of reducing operational costs through the reuse of recycled materials and energy savings are important incentives for entrepreneurs to enter green entrepreneurship [2].

Another example of meso-level factors is green innovation or environmental innovation. This factor has a very important position because today the environmental performance of companies and compliance with environmental regulations are considered a competitive advantage for women entrepreneurs [28]. So, innovation with environmental considerations becomes a key factor in business success. Meso-level factors can play a role in creating a vision of the green framework. The vision of the green framework will lead to the formulation of strategies, decisions, and sustainable actions that can improve environmental and social performance.

Macro-level factors consist of external factors that focus on social systems or structures including economic, political, social, cultural, and policy factors. These factors can drive an individual to succeed in green entrepreneurship. For example, external demands are important factors that contribute to a person's or organization's intention to run an environmentally friendly business. [29–31]. Government intervention can shape one's orientation toward ecological challenges [27]. Environmental regulations and policies are one of the strong factors that force organizations to engage in social and environmentally friendly practices [32]. Furthermore [8] explained that the implementation of strict environmental laws and regulations, and severe penalties for violations can encourage a person to successfully enter green entrepreneurship.

These macro-level factors function as forcers that exert direct pressure on the business world. They also serve as support for entrepreneurs in running their businesses. At the macro level, government support is needed to open access to resources, for example, training and education, availability of infrastructure, and regulations that support environmentally friendly businesses. [8] revealed that green technology, legislation, and economic/market stability play an important role in green entrepreneurship. It further explained that green entrepreneurship development requires infrastructure, a supporting framework, production and consumption culture of green products. [10].

3.2 Future Research Agenda

Some of the previous studies recommended future research agendas include conducting longitudinal studies that observe green entrepreneurs over time can provide insights into the evolution and qualitative nature of green firms and the factors that contribute to their success or failure. In addition, comparing green entrepreneurship across different countries or regions can help in finding factors that affect green entrepreneurship in different contexts and feed into policy recommendations to encourage green entrepreneurship. In addition to these two areas, there are many areas that need to be explored for the development and success of entrepreneurship green economy-based including technology adoption, innovation, gender issues, the impact of green entrepreneurship itself, finance, the role of government, entrepreneurship training and education, green entrepreneurship ecosystems and so on as set out in Table 4.

Table 4. Future research areas

Relevant Studies	Future Research Area
[4, 8, 14, 33, 34]	Longitudinal Study of green entrepreneurship
[8, 10, 13–15, 20, 24, 33, 34]	Cross-country comparison of green entrepreneurship
[8, 18, 35]	Adoption of green technology; green innovation
[8, 35–37]	Gender issues
[36, 38]	Impact of social entrepreneurship activities on environmental sustainability
[8, 19, 38–40]	Green finance and funding sources
[10, 20–22, 38, 41]	Social environmental stability, social responsibility, environmental protection, development potential and entrepreneurship orientation, stakeholder engagement, entrepreneurial background
[10, 13, 16, 17, 19, 22, 24, 25, 37, 39, 41]	Eco-entrepreneurship training and education
[15, 18–21, 35, 36]	Role of Government (policy and regulation)
[17, 18]	Consumer perception of green entrepreneurship
[18, 35, 36]	The barriers to green entrepreneurship
[18, 20]	The impact of pro-environmental behavior on the performance of SMEs in different industry sectors
[26]	Green entrepreneurship ecosystem, comparative study of green and non-green entrepreneurship, the trade-off between environmental protection and economic growth in the context of green entrepreneurship
[25, 42]	Challenges and opportunities related to scaling up green entrepreneurship
[19, 40]	The role of women-only networks in promoting green entrepreneurship
[21]	Competitive advantage of green entrepreneurship

4 Conclusions and Recommendations

This article explicitly examines the factors that influence women's success in entering green economy-based businesses. These factors consist of micro, meso, and macro levels. Micro factors lead to internal factors that are subjective in nature and related to the work behavior of an entrepreneur. While meso and macro factors are external factors that both force, stimulate, and provide support to the success of women entrepreneurs in entering the green economy.

Recent literature highlights the importance of clarifying the factors that influence the success of green entrepreneurs [27]. This study extends the existing theoretical discussion on these factors to fix environmental, by merging variables that drive the development of green entrepreneurs, and performance issues. This study provides a theoretical foundation by incorporating the influence of micro, meso, and macro-level factors on the development of green entrepreneurs. Through this study, researchers and academics are interested in gaining information on green entrepreneurs as well as prevailing study perspectives and trends.

For practitioners, this research can be used as a reference on how to convey knowledge related to green entrepreneurship appropriately and efficiently. Understand the factors that can affect sustainable performance. They can focus on green practices including green organizations, green branding, green innovation/environmental innovation, social/green trust, and green human resources management.

Based on the study findings, it is recommended that regulatory authorities establish a clear environmental framework, which focuses on planning, organizing, controlling, and supervising green activities. Statistical information on environmental pollution, and natural resource degradation should be done regularly. In addition, the study was to establish a reward and punishment mechanism based on these statistics. The government provides support for the provision of green entrepreneurship infrastructure, such as green technology, R&D, sustainable financing, and so on.

Quantitative designs have been widely used in existing studies. Therefore, a qualitative approach to explore new dimensions of green entrepreneurship is needed. In addition, it can be concluded that a study which using different methodological designs is needed to provide a holistic approach to the relationship of green entrepreneur success factors.

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Social Aspects of Insurance Coverage in Ukraine in Conditions of Martial Law

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Abstract. The article deals with the problem of insurance coverage in Ukraine in conditions of martial law. The research outlines the views of scholars on the essence of the concept of 'insurance protection' and highlights the main aspects of this category. The importance of social aspects of insurance protection in wartime is clearly explained; the current state of insurance market in Ukraine is thoroughly analyzed. It is determined that the largest decline in the volume of insurance companies' activities occurred at the end of Q1 of 2022. In Q3 and Q4, the decline continued although it was less rapid. In the conditions of a significant economic downturn, the insurance market underwent considerable transformations: sales of insurance products declined; the number of requests for deferred payments and termination of insurance contracts increased. Due to these facts the financial stability and solvency of a significant number of insurance companies deteriorated, and non-resident reinsurers began to refuse to provide reinsurance coverage. In the first half of 2023, the insurance market showed a slight recovery. This was facilitated by introducing new insurance products that provided partial coverage of war risks. The article analyses insurance products that cover war risks. It is determined that such insurance products have many limitations due to the difficulty in assessing possible losses of an insurance company, their inability to calculate the cost of insurance premiums, a significant level of losses, and the lack of reinsurance of war risks abroad. The authors suggest strategic and operational measures to stabilize the insurance market of Ukraine, which will not only contribute to the overall stabilization of insurance market, but will also significantly increase its sustainability and improve its development indicators.

Keywords: martial law · insurance · insurance event · insurance product · social protection · force majeure

1 Introduction

Military invasion on the territory of Ukraine has had a significant impact on the development of the country's economy, all spheres of public life and social protection policy. Destruction of infrastructure and property, as well as significant damage to the health and lives of citizens, have become direct consequences of Russia's invasion. In such circumstances, it became impossible to finance the social needs of citizens as before, which caused an urgent need for a prompt response to external factors. Insurance is the main tool for ensuring sustainability and balance of social development. Insurance is aimed at social protection of property interests and security of both individuals and business entities. Insurance plays an important role in the system of financial mechanisms for protecting society from unfavourable events and compensating citizens for losses incurred as a result of military operations.

According to the Law of Ukraine "On the Legal Regime of Martial Law" [1], 'martial law' is 'a special legal regime introduced in the state or on some of its territories in the event of armed aggression or threat of attack, threat to the state independence of Ukraine, its territorial integrity and provides for the granting of powers to relevant state authorities, military commandment, military administrations and local self-government bodies in order to prevent or repel armed aggression and ensure national security, eliminate the threat to the state independence of Ukraine, its territorial integrity. Martial law shall impose temporary restrictions on constitutional rights and freedoms of persons and citizens as well as the rights and legitimate interests of legal entities caused by military threats. All people and legal entities shall be informed about the duration of these restrictions' [1]. According to the definition, 'martial law' is a temporary restriction imposed on the rights and freedoms of persons and citizens that will inevitably affect the activities of all financial market institutions, including insurance companies. Insurance companies may face various challenges and need to reconsider approaches to their operations. Traditional types of insurance do not cover losses incurred during military operations, such as shelling, bombing, etc. That is why there is a need to reconsider the essence and social aspects of insurance as a type of economic activity in conditions of martial law.

2 Relevant Research

Nowadays, in conditions of Russia's military aggression, every citizen seeks to protect themselves from possible dangers and risks. One of the feasible methods of such protection is insurance coverage offered by insurance companies.

O. Zhuravka, A. Bukhtiarova, O. Pakhnenko [2] consider insurance protection as an economic category that reflects a set of distributive and redistributive relations whose goal is to overcome and compensate for potential losses that may be caused by various emergency circumstances. The authors T. Tereshchenko, L. Zaboloka, O. Ponomaryova [3], explain insurance protection as economic, redistributive relations that develop in the process of preventing, overcoming and compensating for losses incurred to specific objects i.e. material values of legal entities and individuals, life and health of citizens, etc. T. Tsvigun [4] interprets insurance protection as an economic relationship where a risk (possible loss) of one party (the insured) is transferred to another party (the insurer).

In this situation the insurer is obliged to pay the insured (or other persons appointed by the insured) a certain amount of money (to cover expenses) in case of damage due to unforeseen accidental circumstances during the period of time for which the insured pays the insurance premium to the insurer. In their findings researchers reveal the content of insurance protection from the perspective of forming trust funds and using their assets for compensation of losses incurred.

From researchers' perspective insurance protection is generally considered in various dimensions i.e. economic, natural, social, and legal. Such complex approach ensures a broad and comprehensive understanding of this phenomenon. Thus, the natural aspect of insurance protection explains the insured's need to protect their property interests in the event of unforeseen accidental losses, as well as foreseeable but undesirable losses, and thus serves as a means of preserving the insured's material well-being. From economic perspective insurance is a type of professional activity that fosters creation of specific legal entities that accumulate funds to compensate losses to the insured in the event of adverse events. Also these entities may carry out investment activities, which create favourable conditions for the smooth process of social reproduction. The legal aspect of insurance protection is manifested through regulating relations in the sphere of insurance, determining general legal framework for insurance activities, provision of intermediary services, establishment of requirements for the management system, solvency of insurers, branches of non-resident insurers in Ukraine and disclosure of information by them. Legal aspects also provide for the establishment of requirements for concluding, servicing and performing insurance and reinsurance contracts, regulation of information support for insurance and reinsurance contracts and actions preceding their conclusion, as well as state regulation and supervision in the insurance sector. The international dimension is to harmonize domestic and international legislation in insurance sector, unify the ways of protecting the interests of business entities. It also involves development of legal norms that would provide insurers with sufficient financial guarantees. The social aspect perceives insurance as a system of economic relations aimed at material support of citizens. These relations involve participation of the state, employers and citizens themselves, who commonly contribute to ensuring socio-economic stability in the country. The social aspect of insurance protection is one of the fundamental criteria in conditions of military operations in Ukraine. After all, the social sphere is considered to be directly related to every citizen and to society as a whole. Social support is manifested in the process of ensuring material well-being to citizens in the event of an insurance event. This is especially true for those categories of population that have suffered from military invasion and need protection of their social and economic rights.

3 Current Trends in the Development of Ukrainian Insurance Market in Conditions of Martial Law

Currently, an important condition for ensuring qualitative transformations in Ukraine is establishing of an effective system of insurance protection both for individuals and legal entities against adverse events and risks that may occur in various spheres of public life. In such conditions, the role of insurance as a tool for redistributing business risks and increasing social protection of population is on the rise. Moreover, due to

accumulation of significant financial resources insurance companies perform the role of powerful investors and may contribute to further growth of the country's economy. However, in conditions of Russia's full-scale invasion and subsequent hostilities on the territory of Ukraine, the domestic insurance market is facing significant challenges. Due to a significant economic downturn, the insurance market has undergone considerable transformations: sales of insurance products have drastically declined whereas the number of requests for deferred payments and termination of insurance contracts has increased. Besides, financial stability and solvency of most insurance companies has deteriorated, and non-resident reinsurers have rejected requests to provide reinsurance cover. The settlement of insurance claims has become a lot more problematic, and not only in the regions where hostilities are taking place. In addition, due to the seizure of part of Ukrainian territory, domestic insurers were forced to reduce their network and consolidate customer service centers. The obvious consequence was the fact that there has been a significant decrease in the number of insurers on the market. According to the data from the National Bank of Ukraine [5], the number of insurance companies in Ukraine decreased to 115 companies at the end of June 2023. As of the end of August, 109 insurers remained active in the insurance market, including 99 non-life insurers (about 50 companies are actively operating in the market with insurance payments of more than UAH 1 million) and eleven life insurers (ten companies are active in the market). Over the six months, 13 insurers were removed from the state register, including seven in Q2 2023. For comparison, in 2021, the number of insurance companies operating in the Ukrainian market was 208, including 188 risk insurers and 20 life-insurance companies.

Notably, in 2022 the total amount of gross insurance premiums decreased by 20.12% compared to the pre-war year 2021 and amounted to UAH 39.7 billion (see Table 1). Insurers received UAH 24.6 billion from individuals.

Table 1. Key indicators of insurance companies

Indicators	2021				2022				2023	
	Q1	6 months	9 months	Year	Q1	6 months	9 months	Year	Q1	6 months
Number of insurance contracts concluded for the period (mln.)	29,2	62,8	99,9	131,6	20,1	39,7	60,4	88,0	20,2	40,8
Assets (UAH bln.)	64,3	65,2	65,6	64,2	64,6	65,9	70,9	70,3	70,5	70,8
Accumulated insurance reserves (UAH bln.)	34,2	35,0	35,6	36,6	36,4	36,5	39,8	41,0	41,3	42,5
Gross insurance premiums (UAH bln.)	12,0	24,8	38,0	49,7	9,7	17,7	28,6	39,7	10,1	21,4

(continued)

Table 1. (continued)

Indicators	2021				2022				2023	
	Q1	6 months	9 months	Year	Q1	6 months	9 months	Year	Q1	6 months
Gross insurance payments (UAH bln.)	4,4	8,7	13,4	17,9	3,2	6,0	9,5	13,0	3,8	7,8
Gross claims ratio (%)	36,4	35,1	35,3	36,1	32,9	34,1	33,3	32,8	38,0	36,6

Source:[5]

Volumes of gross written premiums for risk insurance decreased by 8%, whereas life insurance premiums increased by 9% per quarter. Overall, in 2022, life insurance premiums decreased by 17% and risk insurance premiums by 21%. In the first half of 2023, gross written premiums increased by 20.9% compared to the same period in 2022, but this growth does not indicate a significant recovery in the insurance market, as the first six months of the year were the most difficult for the insurance business after the outbreak of the full-scale invasion. In Q3 and Q4 of 2022, the decline continued, but it was less rapid. Compared to the same period in 2021, gross premiums in 2023 decreased by 13.71%.

Insurance payments in 2022 decreased by 27.37% compared to 2021. In 2022, payments totalled to UAH 3 billion, including UAH 7 billion paid to individuals. In general, payments for life insurance contracts increased by 7% over the year, while payments for risk insurance contracts decreased by almost a third. The payout ratio was 33%. Insurance payments and reimbursements to customers in the first half of 2023 comprised UAH 7.8 billion (UAH 4.1 billion was paid to individuals), including UAH 576 million in life insurance (redemption amounts / terminations of contracts amounted to UAH 139 million). Payments ratio in the first half of 2023 was 36.6%.

The total amount of insurers' assets in 2022 amounted to UAH 70.3 billion, which is 9.5% more than in 2021. The assets of life insurance companies increased by 18% in 2022 up to UAH 20.6 billion. The assets of risk insurance companies increased by 6% up to UAH 49.7 billion. In the first half of 2023, all insurers' assets totalled UAH 70.8 billion, which is 8.59% higher in comparison with the same period in 2022. On 1st January 2023 insurance reserves were estimated at UAH 41.0 billion. The total amount of insurers' loss reserves remained almost unchanged over the quarter, but had different dynamics for different types of insurance: for voluntary types, loss reserves decreased slightly (by 7% compared to Q3); for compulsory types, they increased (by 10% compared to the previous quarter) [5]. In yearly dimension, loss reserves for both voluntary and compulsory types of insurance increased by 36%. In the first half of 2023, insurance reserves comprised UAH 42.5 billion, up 21.43% compared to the same period in 2022.

The war has also affected the structure of the insurance market. Maritime and aviation insurance has virtually ceased to operate. Freight insurance, personal insurance, and travel insurance have significantly decreased. The agricultural insurance market remains quite challenging and unpredictable. Insurance companies operating in the life insurance

market report a decline in insurance premiums. The reason for this is structural changes in the labour market: in conditions of martial law, it is becoming more difficult for people to make savings for their future. Priorities in household and daily expenditures of Ukrainian citizens have transformed significantly. Life insurance premiums in Q1, 2023 decreased by 13.3% compared to the same period in 2022 and amounted to UAH 1.3 billion. In contrast to premiums, insurance claims increased to UAH 286 million. This is the highest quarterly insurance payout figure for the last 2 years, including pre-war 2021. At the end of Q1 of 2023, insurance reserves of life insurance companies increased to UAH 17.6 billion, their assets reached UAH 21.3 billion.

Analysis of insurance portfolio structure shows that auto insurance accounts for more than 40% of insurance premiums. The main products of auto insurance are the following: mandatory insurance of liabilities to third parties and the international auto insurance system 'Green Card'. The primary reason for the rise in premiums for comprehensive auto (CASCO) and MTPL insurance is inflation, which has affected the growth in the cost of vehicles, their spare parts and cost of repairs in general. Another reason is the recovery in the number of insured vehicles for these types of insurance.

In such circumstances, domestic insurance companies are trying to adapt to the new realities by creating products that also provide insurance coverage against war risks [6]. These include accident insurance, long-term life insurance, as well as insurance of movable property and real estate. However, such insurance products have many limitations.

4 Insurance Instruments Against War Risks

Russia's invasion into the territory of independent Ukraine has become a serious challenge for the entire economy of the state, especially for its social sphere. In times of war, the social dimension of state's welfare requires more funding for such social aspects as providing support to soldiers' families, healthcare, and reimbursement of citizens' expenses to restore their dwellings, etc. Insurance, as a type of social protection, is one of the main ways to prevent and minimize the risks caused by military operations. At the same time, military operations directly impact the scope of activities offered by insurance companies. Martial law has led to an increase in risks for insurance companies due to full-scale military activities as well as increases in the number of injuries and material losses.

War, as a force majeure event, is a common exception to insurance contracts worldwide. Generally, losses caused in the result of military operations are not considered as insurable events. Typically, insurance does not cover damage to health and life of citizens caused by military operations, nor does it cover damage to property caused by bombing, shelling or other types of warfare. War risks are insured by another type of insurance programs and, obviously, before the outbreak of hostilities.

At the same time, insurance contracts with standard force majeure clauses remain valid in Ukraine regardless of martial law. Although the legal regime of martial law provides for possible restrictions on the rights of citizens, this does not affect some of the legal practices, in particular insurance contracts. In the conditions of martial law, all rights and obligations of the parties to the insurance contract remain in force, although they might have some peculiarities.

Article 617 of the Civil Code of Ukraine clearly states that force majeure exempts a party from liability for breach of an obligation if it proves that such breach is a result of force majeure [7]. Thus, the occurrence of force majeure can be considered as a pre-condition for exempting an insurance company from liability for non-payment of insurance claims. However, the insurer must prove a direct link between the force majeure event and the failure to fulfil its obligations. The case of force majeure must be duly certified. In the event of destruction or damage to property, the mere fact of geographical location of such property is not sufficient to decline insurance coverage. The insurance coverage can be declined only if it is established that the damage to the property was caused by hostilities. This makes it difficult for the insured to receive compensation, as active hostilities do not always allow for facts verification and it is hard to establish the real causes of damage incurred [8]. In such circumstances, insurance companies may require from the insured persons to provide additional proof in the form of photos and videos. The more information the insured provides, the quicker and easier it is for the insurer to make a final decision on compensation. Following the recommendation of the National Bank of Ukraine [9], a significant number of insurers in Ukraine have simplified the procedures for settling cases with insurance claims by using electronic documents, copies of documents, and remote claims settlement tools. Some insurance companies have decided to compensate for the damage caused by the war to civilian objects, which demonstrates the social responsibility of insurers.

Due to military operations, there has been an increased demand for insurance products that include war risks on the list of insured events. War risk insurance is a relatively new insurance product in Ukraine. War risks were exceptional in the insurance practices of citizens to their life or property [10]. Some insurance companies have adapted to market needs and developed new war risk insurance programs. Programs covering risks associated with military events include: insurance of life and health, protection of movable property. For example, ARX Insurance Company offers an insurance program for accidents caused by military operations. This includes damages caused by shells, mines, bullets, building collapses, fire, territory mining, etc. Only civilians can take advantage of this type of insurance. Military personnel and security forces are not covered by the program. The program does not work in the war zone, temporarily occupied or besieged territories [11].

TAS-Life Insurance Company offers insurance coverage against the consequences of military operations for employers. It offers employee insurance agreements with three types of tariffs, depending on the individual set of risks (loss of life due to an accident; disability due to an accident; hospitalization and rehabilitation after hospitalization; ambulance calls; surgery, injuries, etc.) In addition, TAS-Life Insurance Company is the only company that provides accident insurance for military personnel. However, the validity of the insurance policy depends on whether the serviceman is in the combat zone, on the contact line or on the temporarily occupied territory at the time of the insurance event. Insurance payments are not made if the insurance event occurs in the territory where hostilities are taking place or on the temporarily occupied territory [12].

About five insurance companies in Ukraine offer comprehensive auto insurance products (CASCO) covering war risks to vehicles. These companies include INGO Insurance Company [13], VUSO Insurance Company [14], and Ridna Insurance Company [15].

Their offer is a classic comprehensive auto insurance (CASCO) with coverage for damage caused by military operations: damage to the vehicle by debris of a falling or shot down missiles or UAVs; damage caused by the explosion of ammunition, mines, bombs, other weapons and warfare; collision with military vehicles. Nevertheless, events that occurred on the territory of hostilities or temporarily occupied territories shall not be recognized as an insured event.

According to our analysis, insurance products that include military risks have a number of restrictions in terms of causes of the insured event, amount of insurance coverage, and the territory where the insured event occurred. The exception for almost all insurance companies is the regions where hostilities are taking place – due to high risk of damage or destruction objects and people on these territories are not insured [16]. Besides, insurance companies cannot reinsure war risks abroad, as war is a non-typical and force majeure situation for foreign insurance companies. Therefore, Ukrainian companies insure war risks exclusively at their own expense, which is why the amount of payments is limited. Generally, the structure of such insurance contracts may be different in various insurance companies, as every case is to be considered individually on a case-by-case basis.

The problems of insurance coverage of war risks encompass difficulties in assessing possible losses of an insurance company as well as inability to calculate the cost of insurance premiums. In addition, the damage caused by military operations can be so great and unpredictable that even high risk premiums do not guarantee sufficient coverage [17]. This leads to the reluctance of insurance companies to provide military protection to citizens. After all, the high level of risk which is pertinent to military insurance may lead to a loss of financial stability of a particular insurance company.

5 Conclusion

Insurance market is an important structural element of Ukraine's financial system, which, by offering specific products, is able to ensure a protection for the property and well-being of the whole country. The war has brought about a significant reduction in key indicators of the insurance market. To enable the insurance industry to operate under martial law and provide insurance coverage to individuals and legal entities, systemic solutions need to be implemented at the state level.

It is deemed reasonable to divide all measures into strategic and operational ones. Operational measures are considered a priority and will help stabilize the insurance market and maintain solvency of insurance companies. These measures include: mitigating regulatory requirements, reviewing regulatory indicators and reducing their benchmarks (in particular, requirements for the volumes of insurance reserves, primarily unearned premiums reserves; indicators of insurance assets placement). The state, which acts as a supervisory authority, should elaborate special programs that will provide insurance companies with low-interest loans represented as term deposits in Ukrainian banks and government bonds which are typically held by insurers to keep their insurance reserves.

Elaborating simple and transparent mechanisms of refinancing (with participation of the National Bank of Ukraine and other domestic banks) will allow insurance companies to quickly restore their current assets and enable them to duly pay insurance claims.

Another important measure to stabilize the financial state of insurance companies in conditions of war is to reduce their tax burden by abolishing double taxation in insurance sphere and amending legislation in order to provide corresponding tax incentives.

Domestic reinsurance should be neither underrated nor neglected as it serves as an important tool to stabilize domestic insurance market. After the full-scale invasion, many international reinsurance companies announced their withdrawal from the Ukrainian market. It has also become difficult to use international reinsurance services. In this respect the National Bank of Ukraine is to reconsider the regulatory framework for the reinsurance market and foster favorable conditions for domestic reinsurance companies.

In the time of war, it is important to create an insurance pool to adequately cover war risks, which will support the financial stability of insurers and play a crucial role in unlocking the flow of private investment required to support Ukraine's economy during the war. It will also enhance the level of social protection for the population.

Strategic measures will not have an immediate impact on the insurance market, but their implementation will ensure its further effective growth in the future. The major strategic measure is to improve the level of financial literacy of the population. It is vital for people to comprehend the importance of making savings. Ensuring a further increase in voluntary savings will stimulate demand for financial instruments. With the support of state institutions, NGOs and private sector organizations, it is advisable to develop financial literacy programs that foster financial education in various formal and non-formal educational programs for different age groups. Besides, it is advisable for the Ministry of Education of Ukraine to introduce subjects in educational institutions that reveal main aspects of finance, thus increasing financial literacy among the young generation.

It is very important to eliminate imbalances in the financial market. One of the measures is the introduction of a deposit guarantee system not only for banks but also for insurance companies. This is especially vital for life insurance companies. Life insurance is a type of personal insurance of a long-term nature and a significant accumulation tool. Therefore, it is important to ensure functioning of a system that will guarantee insurance payments under life insurance contracts, which will prevent the loss of long-term savings of citizens and their loss of insurance protection in the event of insurer's insolvency. Such a system could strengthen public confidence in life insurance and private pension insurance. It would also solve the problem of low efficiency of pay-as-you-go pension system. Voluntary long-term savings could be an alternative to the mandatory funded pension system imposed by the state. Additionally, the guarantee system would contribute to the development of the financial market as well as foster shaping of a 'long' investment resource that could be used for the needs of real economy and could boost further economic growth.

Abolishment of the compulsory 'accreditation' procedures for insurance companies in banks and when participating in tenders will help revive the insurance market, as such 'accreditation' procedures contradict principles of free market economy and make it difficult for insurance companies to access modern financial asset management tools.

Implementation of the suggested measures will not only help stabilize the insurance market, but will also significantly increase its sustainability and improve its development indicators.

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Enhancing Public Satisfaction: The Impact of Interactive Marketing in Social Institutions (the UAE Ministry of Community Development)

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Abstract. This study delves into the relationship between interactive marketing dimensions and public satisfaction with services provided by social institutions, with a focus on the Ministry of Community Development in the UAE. Employing a survey methodology, a random sample (250) representing beneficiaries of the Ministry's services was surveyed. The findings indicate that most respondents exhibited a high level of engagement with interactive marketing dimensions, predominantly falling within the high-to-medium range. Notably, there was a positive trend among beneficiaries who interacted with the Ministry's website. A high degree of satisfaction with the services offered through the Ministry's website was reported. Our findings confirmed the hypothesis that a statistically significant correlation exists between interactive marketing dimensions and the degree of satisfaction with services provided by the Ministry of Community Development in the UAE. These findings underscore the importance of effective interactive marketing strategies in enhancing service satisfaction within the realm of social institutions. Additionally, they acknowledge the influence of demographic variables on satisfaction levels, offering practical insights for optimizing service delivery and engagement strategies.

Keywords: Interactive marketing dimensions · Public satisfaction · Social institutions · Ministry of Community Development · UAE · Service delivery · Engagement strategies

1 Introduction

Communication technology in the digital age has led to transformations in service provision and evaluation, and this has resulted in ease of performing the service, as well as benefiting from it [1]. This technology has enabled individuals to obtain goods/services while sitting in their places, without the hassle of traveling or moving from one place to

another. Such technology has increased in times of crises, as the need to use digital tools has emerged considering the Corona pandemic (Covid-19), and what it has imposed on the entire world [2, 3]. It has led to radical changes in the concepts of providing and obtaining services and has cast a shadow on the inevitability of digitization and changing concepts affecting the communication between the service/good provider and their beneficiaries/buyers [4]. In the digital age, institutions, whether profit or service, seek to gain the loyalty and trust of their customers [5], by investing in modern communication methods, including interactive marketing [6], in order to raise the levels of providing services or goods to the public, enabling them to fulfill their mission or the reason for which they exist [7]. Based on the communicator's understanding of the organization's reputation standards and its mental image among the public [8], the biggest challenge facing various organizations is to obtain the satisfaction of users or customers [5].

Therefore, this study identified the relationship between the dimensions of interactive marketing and public satisfaction with the services of social institutions and evaluating these institutions' use of electronic means in providing services to beneficiaries in the UAE. Within its framework, this study follows the survey approach with its two parts: descriptive, which aimed to depict and document current events and facts, collect data and information about the phenomenon under investigation, and draw a realistic picture of it, and analytical, in order to test the relationship between the study variables and draw its conclusions.

2 Theoretical Framework

Interactive marketing is a combination of traditional marketing principles with customer relationship management methods and technology to build relationships and acquire new customers [9]. This marketing often permeates within social media such as X (formally Twitter), Facebook, and others. It is a complex system that allows for evaluating and maximizing customer value and applying effective methods to stimulate loyalty among the most valuable customers [10].

E-marketing enhances customer satisfaction in the telecommunications sector due to the method of dealing with the telecommunications company [11]. In addition, there is a positive significant relationship between the dimensions of interactive marketing and repurchase intention [12]. Interactive marketing is an appropriate attempt to reach the public through interactive communication channels that allow active participation and interaction between the two parties [6], in order to know the customer's needs and desires, and provide the product that suits his needs [13]. Interactive marketing contributes to building a strong relationship between the hotel and customers through the pull and push technique that eliminated the idea of the receiving customer and replaced it with real dialogue with customers (interactivity) [14].

With regard to the dimension of trust, it was found that performing the service correctly and from the first time generates a high amount of customer satisfaction [5, 15]. Reliability, and thus trust affects customer satisfaction through the process of providing the service, and this depends on the competence and skills of the service provider [16]. Trust is also related to commitment and honesty in promises on the part of the hotel. This would enhance this trust and strengthen it further [17]. Which results in achieving

satisfaction and achieving loyalty [18]. As for the dimension of interaction and ease of use, it has been shown that the speed of responding to inquiries and complaints affects customer satisfaction, and two-way communication plays a major role in achieving customer satisfaction through customizing offers and messages [19].

Sheth & Kim [20] study built a model on the role of interactive communications conducted through social media, which enables workers to create, publish and exchange content, as well as data and information related to brands and products. The study concluded that interactive marketing has a crucial role by influencing the user's attitude towards the brand. Branding and purchase intentions towards the brand under study. Moreover, Csikósová et al. [21] demonstrated that providing an overview of direct and interactive marketing strategy concepts and methods that encourage effective teaching and learning, and indicated that continuing developments in database management and communication technologies have greatly accelerated marketing's ability to become more direct and more focused. Increasingly interactive, therefore, direct, and interactive marketing and integrated marketing communications efforts are best coordinated by a cross-functional team using a comprehensive promotional plan [22].

2.1 Dimensions of Interactive Marketing

Trust is difficult to define a specific concept of trust, but if we look at it from a general framework [23]. It indicates the extent of the service provider's reliability, credibility, integrity, and ability to implement what he promised. Based on this the dependence of one party on the other arises, and here the trust is from the audience of beneficiaries toward the Ministry is sincere in adhering to its pledge to serve customers and provide them with the best services [22]. Firstly, commitment is a complex concept, and it has been defined in many ways. Most studies have agreed to define commitment as a connection between two parties that leads to the desire to maintain the relationship between them and expresses a psychological and emotional force that binds customers [5]. The relationship between the two parties is affected by the degree of mutual commitment, and the degree of the commitment felt by the parties to the relationship is the basis for its success and development [24].

Secondly, service quality, which refers to the suitability of the service or product for its intended use or purpose, and thus the suitability of the service to the actual needs of the beneficiaries [25]. It is one of the most important dimensions that formal and informal institutions seek to achieve to ensure customer satisfaction. Thirdly, problem solving represents the organization's endeavor to overcome obstacles and address problems that may occur when obtaining the service [26]. Problems are formal communications directed from the client to the organization, and the latter benefits from them in developing performance, evaluating, and improving work [27].

Two-way communication, which means the channels or methods through which the Ministry exchanges information with beneficiaries. With the aim of knowing customers' needs and requirements, making them feel comfortable and satisfied with the services provided, and displaying all developments in the services [28, 29]. Fourthly ease of use: It means that the design of the ministry's website or page should be uncomplicated, in addition to the attractiveness and vitality of the design [11]. The complex design leads to difficulty in obtaining the service, and customers' reluctance to use it, and thus the goal

for which the site was created is not achieved. Thus, it must fit the needs and capabilities of all customers.

Based on a review of previous studies and observation, the study examined to identifying the relationship between the dimensions of interactive marketing and public satisfaction with the services of social institutions (e.g., Ministry of Community Development), and evaluating these institutions' use of electronic means, represented by the website, in providing services to beneficiaries. Accordingly, the following study model and its hypotheses were proposed (Fig. 1).

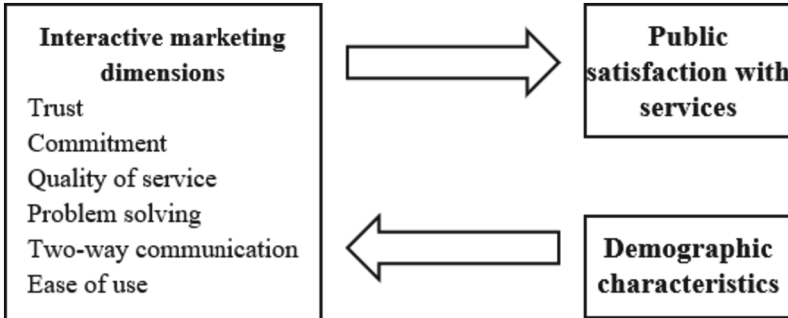


Fig. 1. Research model

H1: Demographic characteristics have impact on public satisfaction with the Ministry's services.

H2: Intensity of interactions have impact on public satisfaction with the Ministry's services.

H3: Interactive marketing dimensions have impact on public satisfaction with the Ministry's services.

3 Research Methodology

This study aims to shed light on a recent phenomenon in UAE society and a new e-marketing strategy, which is interactive marketing through the website, and to determine the relationship between the dimensions of interactive marketing and public satisfaction with services. The study relied on the online survey for data collection. Organizing data for the purpose of describing or predicting a specific action, or for the purpose of analyzing relationships between variables [30, 31]. The research population represents all beneficiaries of the services of the Ministry of Community Development services in the UAE. The study conducted a sample of (250) individuals in a random manner from the public. The data were coded and entered into the computer, then processed and analyzed to extract statistical results, using the IBM SPSS program. The statistical variables varied between nominal variables, and ordinal variables, and scale variables, and accordingly, the statistical coefficients that fit each of these variables were applied, using tests and statistical treatments. Table 1 showed the respondents' characteristics.

4 Results

H1 assumed that there were significant differences between the demographic characteristics and the intensity of interactions with the Ministry of Community Development services. The data (Table 1) indicated that there were no statistically significant differences in the intensity of the respondents' dealings with the Ministry's services or the gender, education and work. However, the showed that there were statistically significant differences in the intensity of the respondents' interaction with the Ministry's services regarding their age and location. This means that the H1 was supported.

Table 1. Significant difference in the demographic characteristics and the intensity of interactions

Constant	Type	N	Mean	SD	<i>t</i> -value	df	Sig.
Gender	Male	95	2.06	.741	-.564	248	.573
	Female	155	2.12	.847			
Age	<30yr	58	1.91	.800	<i>f</i>-value 2.565	245	.039
	31–40	87	2.03	.784			
	41–50	67	2.28	.812			
	51–60	22	2.04	.843			
	61yr>	16	2.43	.727			
Education	Before university	110	2.16	.795	.646	247	.525
	University	119	2.04	.806			
	Graduate	21	2.09	.889			
Job	Government sector	87	2.04	.833	.436	245	.782
	Private sector	33	2.15	.712			
	Freelance	21	2.04	.740			
	Student	8	1.87	.834			
	Unemployed	101	2.15	.833			
Location	Abu Dhabi	52	1.96	.684	10.57	244	.000
	Dubai	17	2.41	.507			
	Sharjah	31	2.80	.542			
	Ajman	64	1.75	.712			
	Ras Al Khaimah	67	2.02	.936			
	Fujairah	19	2.47	.611			

The data in Table 1 indicated that there were no statistically significant differences in the degree of respondents' intensity of interactions and Ministry's services regarding their demographic features e.g., gender and type of job. However, there were statistically significant differences in the intensity of interactions and with the Ministry's services regarding their education level and location. This expresses that younger respondents

are more satisfied with the services of the Ministry, and this may be due to the ease of dealing with social media and smart electronic services that provide by the Ministry. Respondents in these two emirates (Abu Dhabi - Dubai) were also more satisfied with the services of the Ministry's services (Table 2).

Table 2. Significance of differences in respondents' satisfaction and their demographics

Constant	Type	N	Mean	SD	t-value	df	Sig.
Gender	Male	95	2.40	.553	.936	248	.350
	Female	155	2.33	.513			
Age	<30yr	58	2.41	.496	f-value 2.892	245	.023
	31–40	87	2.47	.502			
	41–50	67	2.25	.586			
	51–60	22	2.13	.351			
	61>	16	2.31	.602			
Education	Before university	110	2.43	.533	3.196	247	.043
	University	119	2.32	.538			
	Graduate	21	2.14	.358			
Job	Government sector	87	2.37	.488	.310	245	.871
	Private sector	33	2.36	.488			
	Freelance	21	2.23	.624			
	Student	8	2.37	.517			
	Unemployed	101	2.36	.560			
Location	Abu Dhabi	52	2.82	.382	23.074	244	.000
	Dubai	17	2.70	.469			
	Sharjah	31	2.35	.608			
	Ras Al Khaimah	67	2.29	.522			
	Fujairah	19	2.21	.418			
	Ajman	64	2.00	.251			

Regarding H2, there was a significant correlation between the intensity of dealing with the Ministry's services and satisfaction with its services. The Pearson correlation test was run and reported in Table 3. The data showed that there was a moderate positive correlation between respondents' satisfaction with the ministry's services and interactive marketing dimensions. For example, they were satisfied with how the ministry handling intensity, which means that the greater the degree of satisfaction with services, the greater the intensity of dealing with the issues, supporting our H2.

Our H3 assumed that there was a statistically significant correlation between the dimensions of interactive marketing and the degree of satisfaction with the Ministry's

Table 3. The relationship between interactive marketing dimensions and satisfaction levels

Item	Satisfaction
Handling intensity	.650**
Interactive marketing dimensions	
Trust	.187**
Commitment	.301**
Quality of service	.242**
Problem solving	.639**
Two-way communication	.492**
Ease of use	.271**

** P < .001, sample size 250

services (Table 3). The data showed that interactive and the degree of satisfaction with the services provided by the Ministry of Community Development.

The results indicated that the majority of respondents (78.8%) had a high level of interactive marketing dimensions. The majority of respondents (80.4%) had a high level of commitment, followed by the medium level in second place with a percentage of 15.6%, while the low level came in last with a very small percentage of only 4%, and the two phrases “those in charge are keen” topped the list. “The employees were committed to the confidentiality of my conversations with them,” and “The employees were committed to the confidentiality of my conversations with them. In addition, the hypothesis that there is a statistically significant correlation between the intensity of dealing with the Ministry of Community Development and the degree of satisfaction of dealing with the services it provides was support. Finally, the hypothesis that examined the correlation between the dimensions of interactive marketing and the degree of satisfaction with the Ministry of Community Development services was support.

5 Conclusion

This study delved into the interactive dimensions and the level of satisfaction with the services offered by the Ministry’s services. The findings shed light on several key aspects. Firstly, it was evident that a significant portion of the sample, accounting for 78.8%, exhibited a high degree of engagement with the interactive marketing dimensions [21, 32]. This suggests that a substantial portion of the respondents actively interacted with the Ministry’s services, indicating a positive level of engagement. Furthermore, the majority of respondents, comprising 80.4%, demonstrated a high level of commitment to the Ministry’s services. This underscores the dedication of both the Ministry and its employees in maintaining a high standard of service quality [5, 16, 33]. Notably, the commitment to maintaining the confidentiality of conversations emerged as a significant factor in this commitment.

The study also provided empirical evidence supporting the hypothesis that a statistically significant correlation exists between the intensity of interactions with the Ministry

of Community Development services and the level of satisfaction with its services [34]. This highlights the importance of fostering meaningful interactions with service recipients to enhance overall satisfaction. Additionally, the study validated the hypothesis that a statistically significant correlation exists between interactive marketing dimensions and the level of satisfaction with the Ministry's services. This underscores the relevance of implementing effective interactive marketing strategies to positively influence service satisfaction. In summary, the study's findings emphasize the importance of interactive marketing dimensions and commitment in enhancing satisfaction with the Ministry's services. These insights can serve as a valuable foundation for further optimizing service delivery and engagement strategies within the Ministry of Community Development in the UAE.

6 Limitations and Future Research

The study has number of recommendations that emerged from the findings, which are for decision makers. Therefore, attention must be given to promoting the website of service ministries, while providing detailed explanations of the ways to obtain services through them. In addition to conducting further studies to evaluate the communication and marketing activities it provides, in order to benefit from its results in improving performance and evaluating and addressing problems. Finally, it is important to conduct studies on the method and the communicator, to identify and evaluate the strategies followed by various institutions in the interactive marketing of their activities, and to use the results of these studies to improve the quality of work.

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The Development of Low-Emission Public Urban Transport in Europe

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Abstract. In recent years, the development of low-emission public urban transport in Europe has become one of the main priorities of many cities. It is assumed that urban transport is one of the largest sources of air pollution emissions, therefore the development of more ecological transport methods is necessary to protect the environment and the health of residents. Many European cities have introduced various measures to increase the share of low-emission public transport. One of the most important is the development of tram and metro networks. Trams and metros are more ecological than cars because they do not emit air pollutants while driving. In addition, many cities use hybrid or electric technology for city buses, which reduces emissions of carbon dioxide and other harmful chemicals. Measures such as emission zones and city center congestion charges for combustion engine vehicles are also effective in reducing air pollution. Some cities have also introduced bicycle rental programs that encourage residents to move around the city using more ecological methods of transport.

As part of EU policy, many cities receive subsidies for the development of low-emission public transport. The European Union is putting effort into promoting greener transport, both by financing projects and setting standards for reducing emissions of harmful substances by means of transport.

The lessons learned from the development of low-emission public urban transport in Europe are very beneficial for environmental protection. The positive effects include reducing air pollution emissions, reducing road congestion and improving the health of residents. Therefore, continued investment and the development of ecological transport methods are necessary for the sustainable development of cities.

Keywords: low-emission public transport · electromobility · barriers

1 Environmental, Social, and Economic Challenges to the Public Transport System

Passenger transport in Europe, is dominated by individual means of road transport, which makes city centers not only crowded and struggling with chronic road congestion, but also affected by the problem of environmental pollution with harmful emissions of

substances from exhaust fumes, as well as excessive noise. Increasing users' own costs and external costs, such as reducing the comfort of travel or living in cities, mean that both the authorities of agglomerations and their inhabitants face new environmental, social and economic challenges, requiring pragmatic adaptation of the public transport system to the economic situation of a given country.

In the 21st century, there is an increasing interest in the phenomenon of sustainable development and its implications for planning the operation of the public transport system in cities. A sustainable public transport system should consider the following principles [1]:

- a) accessibility to transport services in terms of health safety;
- b) principles of intergenerational justice;
- c) economic efficiency;
- d) optimal use of space;
- e) limiting the negative impact on the environment.

Among the criteria mentioned, he assigns a special role to two categories. The first is the category of mobility (a feature traditionally assigned to the development of public transport as a key category) [2]. So far, public transport has been assessed primarily in terms of physical movement. It is emphasized that if sustainable development maximizes the efficiency through which all material goods generate added value in the form of a sense of contentment or satisfaction at a relatively low level of consumption, then similarly sustainable public transport maximizes the sense of satisfaction transferred to a unit of mobility, or in other words - sustainable public transport makes it necessary to maximize the dose of happiness per unit of mobility. Arguing with this view, it can be noted that this guarantee is best provided to urban residents by individual motorization (the greatest satisfaction), but it is by no means a model of sustainable development.

Sustainability involves people striving to protect and improve their quality of life. It can therefore be clearly indicated that sustainability involves integrated human activities [3]. The second word of the term "sustainable development" is the concept of development, which means constant movement and the related interactions of phenomena occurring in the surrounding reality. Sustainable development is created by stable institutional, ethical, legal, technological and organizational foundations that set directions and shape the behavior of development entities. Public awareness must also be taken into account.

The second category is accessibility. Nowadays, the evaluation of transport policy is increasingly based on this category, i.e. on enabling people to obtain the desired goods and services. Many factors influence availability. The main ones include [4]:

- a) capacity for mobility;
- b) rational use of the area (e.g. location of activities);
- c) mobility substitutes (such as telecommunications and delivery services).

The state of sustainable development of public transport is characterized by achieving a system of its individual elements that allows for maximizing efficiency in economic, social and environmental terms. Additionally, it is important that the achieved state of balance demonstrates durability, which would ensure that the achieved balance remains unchanged over time. It can therefore be concluded that development characterized by

durability ultimately leads to a structure that affects the flexibility of the entire public transport system, taking into account changing external factors.

The sustainable development of public transport is determined by the strategic documents of the European Union, which are:

- a) White Paper. European transport policy on the horizon until 2010: election time, announced in 2001 - presents strategies and goals for transport policy for the period up to 2010. The main goal was to create a sustainable and effective transport network that would ensure competitiveness and safety throughout the European Union. Additionally, the White Paper aimed to improve safety in the transport sector. Actions in this area included the introduction of stricter road safety standards, measures to prevent accidents at sea and increased passenger protection in air transport. An important element of the White Paper was also the inclusion of the social aspect of transport. The document assumed improving the mobility of citizens, especially those in a difficult social situation. It was proposed, among others: better availability of public transport and implementation of transport projects in areas with low transport accessibility. The White Paper on European Transport Policy on the Horizon by 2010 aimed to create a more sustainable, efficient and safe transport system in Europe. The actions proposed in this document were continued in subsequent years to achieve the set goals [5];
- b) Green Paper. Towards a new culture of urban mobility, 2007- the aim of the Green Paper was to present the challenges posed by the growing number of inhabitants in cities and the need for sustainable management of urban transport. The document emphasizes the need to create a more environmentally friendly and effective transport infrastructure in cities. The conclusions and proposals contained in the Green Paper aimed to inspire cities to change their transport policies towards more sustainable urban mobility. They were also used as the basis for the development of the European Union action program in the field of urban transport [6];
- c) White Paper. Blueprint for a Single European Transport Area - striving to achieve a competitive and resource-efficient transport system, issued in 2011 - an important element of the White Paper is also the promotion of intelligent transport technologies and innovative solutions. The goal is to use modern technologies, such as traffic management systems and the Internet of Things, to improve transport efficiency and safety. The White Paper also emphasizes cooperation between European Union member states in order to create a coherent and integrated transport network. The aim is to create a single European transport area that will promote trade, citizen mobility and European integration. As part of the implementation of the White Paper, the European Commission introduced a number of initiatives and programs, such as the Connecting Europe Facility program, which aims to finance infrastructure projects, and the Intelligent Transport Systems program, which aims to promote the use of intelligent technologies in transport [7].

Table 1 presents European challenges to the public transport system in terms of sustainable development.

Public transport is an important determinant influencing the development of cities. The priority goal of the authorities of urban agglomerations should be to improve the quality of public transport. An important element of improving its quality in the

Table 1. Challenges to the public transport system based on strategic documents of the European Union.

	STRATEGIC DOCUMENTS OF THE EUROPEAN UNION	CHALLENGES		
		ENVIRONMENTAL	SOCIAL	ECONOMIC
CHALLENGES FACED BY THE PUBLIC TRANSPORT SYSTEM	White Paper "European transport policy on the horizon until 2010: time for elections", published in 2001.	<ul style="list-style-type: none"> introduction of alternative energy sources. 	<ul style="list-style-type: none"> stimulating supply by introducing innovative solutions (including the development of integrated ticketing systems). 	<ul style="list-style-type: none"> increasing investment expenditure on systemic control of public transport.
	Green Paper "Towards a new culture of urban mobility", published in 2007.	<ul style="list-style-type: none"> tightening EU standards on noise caused by road vehicles (including railways) and tires, harmonized minimum environmental standards for the operation of vehicles to promote the continuous modernization or decommissioning of highly polluting vehicles. 	<ul style="list-style-type: none"> actions to make alternative ways of getting around to the private car, such as walking, cycling, public transport or riding motorcycles and scooters, more attractive and safer. eliminating social differences (building infrastructure supporting the use of public transport for disabled people). 	<ul style="list-style-type: none"> parking fees as a financial instrument, i.e. free parking spaces on the outskirts and high fees in city centers to encourage travelers to change their means of transport from individual to collective transport, co-financing the expansion, renovation and modernization of ecological urban transport.
	White Paper "Plan to create a single European transport area - striving to achieve a competitive and resource-efficient transport system", published in 2011.	<ul style="list-style-type: none"> halving the number of conventionally powered cars in urban transport by 2030; eliminating them from cities by 2050; achieving essentially CO₂-free logistics in large urban centers by 2030. 	<ul style="list-style-type: none"> changing public awareness (reducing the need to travel by shortening distances and working remotely), treating travel as a valuable activity and not just meeting a secondary transport need. 	<ul style="list-style-type: none"> financing intended for the modernization of existing infrastructure and creation of new (vehicle charging stations, integrated transport systems), review of the taxation of motor fuels, including clear identification of the energy component and CO₂ emissions.

context of sustainable development is the implementation of low-emission means of transport. Challenges for the public transport system based on European Union strategic documents include sustainable transport development. One of the main challenges is to increase the share of public transport to reduce greenhouse gas emissions and air pollution. The European Union sets goals for reducing CO₂ emissions and promoting energy-saving solutions in public transport.

Improving interoperability is an important challenge. Increasing compatibility and interoperability between different public transport systems, such as trains, buses and trams, is a priority goal of European countries.

All these challenges are considered and addressed within the European Union's strategic documents, which aim to develop and improve public transport throughout the EU.

2 Electromobility as an Instrument for Achieving the Goals of Sustainable Development of Public Transport in Europe

Electromobility has great potential as an instrument for achieving the goals of sustainable development of public transport in Europe [8]. Reducing emissions, improving energy efficiency, developing infrastructure and technology are the key factors that support electromobility as a sustainable solution for public transport. Governments, public transport operators and vehicle manufacturers should work together to promote electromobility and introduce new solutions in this field.

Public transport based on electromobility allows for achieving certain environmental and operational benefits, which include: no emissions of pollutants at the point of use of electric buses, the possibility of creating Clean Transport Zones, improved travel comfort, reduced noise emissions and reduced operating costs of this type of transport. Currently, there is no turning back from the development of urban transport based on low-emission vehicles. The implementation of innovative solutions, in terms of electrification of urban rolling stock, is aimed at improving the quality of life of residents by eliminating external costs of transport, such as noise and environmental pollution. Electromobility serves to ensure a compromise between three components: economic, social and ecological reasons. A sustainable urban public transport system can be defined as a way of moving, and its main task is to meet the transport needs of city residents in a way that [9]:

- a) does not pose a threat to human health or the environment;
- b) uses renewable energy sources;
- c) it is economically affordable for city residents;
- d) aims to reduce emissions of harmful gases;
- e) allows you to function effectively, supporting the economy and regional development;
- f) does not cause street congestion.

Electromobility brings with it important tools (social, economic, spatial and environmental), so it is a key factor in the phenomenon of sustainable society and economy. This is the result of applicable legal regulations (national and European) and the increasingly common pro-ecological practice of urban agglomerations and city authorities taking measures to encourage the use of low-emission means of transport. The type of bus that will arrive at the stop does not determine the passenger's transport decisions. Only the overall attitude towards the urban transport service can determine his choices. Therefore, there must be incentives and privileges for residents in road traffic for public collective transport. This is a priority action for cities, carried out as part of the implementation of sustainable mobility and sustainable development policies, which is intended to increase the use of ecological forms of urban transport compared to individual transport.

Regardless of the rolling stock used, privileging public transport improves travel conditions for public transport passengers and improves the modal division between individual transport and public transport towards greater use of public transport. This, in turn, means a reduction in the number of individual means of transport in everyday urban traffic, which is reflected, among others, in less need for space for car infrastructure (roads, parking lots) and reducing the chronic phenomenon of congestion on city roads. Road traffic is one of the factors that contributes to the poor air condition in cities. This is

not the main cause of smog, but it significantly increases its level. It is also a significant source of other pollutants.

In fact, the entire transport sector has recorded a systematic increase in greenhouse gas emissions over the last three decades, i.e. since 1990, by as much as 33.5% in total. According to data presented by the European Parliament in 2019 the share of CO₂ emissions from road transport was as much as 71.7% [10].

According to an analysis of data from the European Alternative Fuels Observatory (EAFO), 882,081 electric vehicles were registered in Europe in 2012–2022 [11].

In terms of powertrains, 436,085 BEVs and 445,996 PHEVs were registered. Figure 1 shows the evolution of new BEV and PHEV registrations in Europe.

Many European cities are also taking steps to introduce electromobility in public transport. For example, Oslo, Norway has banned traditional buses in the city center and all new buses must be electric. Barcelona in Spain plans to introduce 200 electric buses by 2024, and London in the UK has committed to introducing only zero-emission buses by 2037.

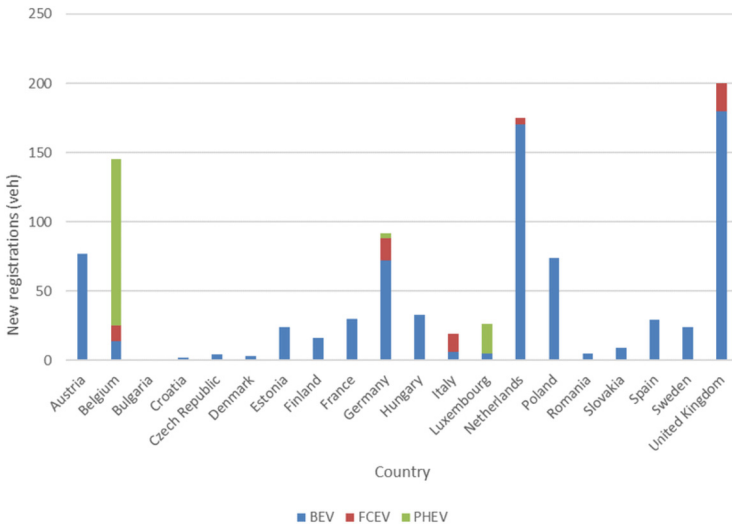


Fig. 1. Number of registrations of new electric buses in Europe by country and powertrain.

Electromobility in low-emission public transport in Europe is growing rapidly and becoming more popular. Many countries and cities are taking steps to increase the number of electric buses and other electric vehicles on their streets to reduce greenhouse gas emissions and improve air quality.

Several European countries, such as Norway, the Netherlands and Sweden, are leaders in electromobility in public transport. Norway has the highest share of electric buses in Europe, and their number is constantly growing, especially in larger cities[12]. In the Netherlands, it is planned that all city buses will be electric by 2025, and Sweden is investing in the development of infrastructure for charging electric vehicles to enable further expansion of electromobility.

3 Barriers to the Development of Low-Emission Public Transport in Europe

The development of low-emission public transport is with barrier. Politically motivated development directions and activities result from the need to make up for the neglect of the past and fit into new technological and economic trends in Europe and around the world.

At the same time, elements of the transport system, especially infrastructure, are exposed much more than a few years ago to the direct impact of extreme factors such as: climate and urbanization factors (road congestion) or social factors (lack of residents' awareness of the effectiveness of using pro-ecological transport solutions for sustainable development).

There are several main barriers affecting the development of low-emission public transport in Europe, including:

- a) infrastructure – the lack of appropriate infrastructure such as tram lines, rail networks and charging stations for electric vehicles can hinder the development of low-emission public transport. Investments in such infrastructure are expensive and time-consuming, which may constitute a barrier to development;
- b) costs – the costs of purchasing and maintaining low-emission vehicles, such as electric trams or hybrid buses, may be much higher than traditional combustion vehicles. Large cities often struggle with limited public transport budgets, which makes it difficult to invest in low-emission modes of transport;
- c) political resistance – there is political resistance to making changes to the structure of public transport, especially if it means job losses for bus drivers, taxi drivers, etc. Some interest groups may lobby against the development of low-emission modes of transport;
- d) emissions - many European cities still allow high emissions for combustion-powered vehicles, making it difficult to stimulate demand for low-emission modes of transport. Imposing appropriate fees for cities to introduce low emission zones may help solve this problem;
- e) social awareness and preferences – some people still prefer traditional combustion-powered cars for reasons of comfort and convenience. Creating awareness and educating about the environmental benefits of low-emission public transport can help convince the public to use such modes of transport;
- f) organization of public transport – the efficiency and availability of public transport may influence its popularity. Unfavorable timetables, lack of frequency of connections, inappropriate routes, etc. can lead to lower demand for public transport, both low-emission and traditional.

To overcome these barriers, action is needed at various levels - local, regional and national. Investments in low-emission public transport infrastructure, introducing financial incentives for operators and passengers, as well as public education are key elements that can help develop low-emission public transport in Europe.

Additionally, it is also necessary to create appropriate legal and regulatory frameworks that will enable the development of low-emission public transport. Countries and

cities should adopt targets to reduce CO₂ emissions in public transport and establish regulations requiring the use of low-emission vehicles in the public transport sector.

It is also important to promote cooperation between different stakeholders, such as transport service providers, vehicle manufacturers, regulators, and the local community. Public-private partnerships can be an important tool in developing low-emission public transport, enabling the exchange of knowledge, experience, and resources between the public and private sectors.

Finally, the promotion of the use of low-emission public transport must go hand in hand with reducing the use of individual means of transport, especially those with high fuel consumption. Creating restricted traffic zones, introducing congestion charges into city centers or tax breaks for people using public transport can be effective tools in reducing the demand for individual vehicles and increasing the share of public transport.

Introducing these actions at various levels can bring positive results in reducing CO₂ emissions and improving air quality in European cities. With the right investment and regulation, public transport can become a more sustainable and environmentally friendly way of traveling.

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Analysis of the Dynamics of Revenues of Selected National Economies from the Export of Energy Resources

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Abstract. Energy resources play a crucial role in the global economy, serving as a linchpin for development and sustainability. This article studies the dynamics of revenue generation related to the export of energy resources within selected national economies. Using a methodological approach grounded in dynamics analysis and statistical time series, the study examines the temporal evolution of export revenues associated with crude oil and natural gas. The literature review explores factors that influence export revenues, including the quality of exported products and the effects of diversification on energy demand. The study focusses on ten countries with the highest levels of crude oil and natural gas exports, employing dynamics analysis to uncover trends in revenue generation. The discussion of the results considers broader issues such as climate change, energy security, and the impact of the COVID-19 crisis. The findings underscore the risks associated with dependence on fossil fuel exports, highlighting the need for diversification and sustainable strategies to navigate evolving global energy dynamics. In conclusion, the study provides valuable information on the complex interplay between energy exports and economic trends. The findings contribute to ongoing discussions on the challenges and risks associated with fossil fuel dependence and the need for sustainable economic practices.

Keywords: Energy resources · Export revenues · International trade

1 Introduction

Energy resources are of paramount importance in the world economy and constitute a linchpin for global development and sustainability. The intricate interplay between energy and economic systems underscores the pivotal role of energy resources as

the lifeblood of industrialisation, technological advancement, and economic growth. Nations, industrialised or emerging, rely on a diverse spectrum of energy sources to power their industries, fuel, transport, and sustain the modern way of life. Strategic management of energy resources not only influences a nation's economic competitiveness, but also shapes its geopolitical standing in the international arena [1]. As the world grapples with the imperatives of climate change and seeks pathways toward sustainable development, the dynamics of energy resources takes the centre stage, necessitating astute policies and concerted international cooperation. The nexus between energy and the global economy is profound and influences trade patterns, geopolitical alliances, and the fabric of social structures. In this complex web, judicious exploration, extraction and utilisation of energy resources emerge as imperatives to promote economic resilience and forge a sustainable future on a global scale [2].

In the contemporary global economic paradigm, the role of energy resources as key contributors to national economies cannot be overstated. The export of energy resources, from fossil fuels to renewable energy, has become a strategic cornerstone for many nations, influencing their economic development trajectories. This article explores the complex dynamics of revenue generation associated with the export of energy resources within select national economies [3].

The methodological basis of this study lies in the profound utility of dynamics analysis. This analytical approach enables the representation of the magnitude and directions of development, offering insights into the temporal evolution of the phenomenon studied. In essence, dynamics analysis serves as a lens through which we discern the degrees of increase or decrease in revenues derived from the export of energy resources, allowing us to articulate a nuanced narrative of economic trends.

At the core of the analytical framework is the application of statistical time series. These time series, dynamic and developmental in nature, present a chronological sequence of values of the phenomenon studied observed over successive units of time. This temporal dimension becomes crucial in unravelling the ebb and flow of revenue generation, providing a comprehensive understanding of how these national economies navigate the challenges and opportunities presented by the global energy market.

The article provides an examination of the crucial role that energy resources play in the global economy. Employing a methodological approach rooted in dynamics analysis and statistical time series, the study investigates the temporal evolution of export revenues associated with crude oil and natural gas. The review of the literature explores various factors influencing export revenues, including product quality and the effects of diversification on energy demand. Focussing on the top ten countries with the highest levels of crude oil and natural gas exports, the research identifies trends in revenue generation. The results underscore the risks associated with dependence on fossil fuel exports, highlighting the need for diversification and sustainable strategies amid evolving global energy dynamics. The discussion incorporates broader themes such as climate change, energy security, and the impacts of the COVID-19 crisis. The findings contribute valuable information to the ongoing discourse on the challenges and risks related to the dependence on fossil fuels, highlighting the importance of sustainable economic practises. The study concludes by highlighting the intricate interplay between energy exports

and economic trends, urging countries to adopt proactive measures to protect economic resilience in the dynamic landscape of global energy.

2 Literature Review

Several studies have examined the factors that influence export revenues in national economies. Minondo [4] explores the relationship between export revenue and quality using evidence at the firm level from developing countries. The study finds that higher opportunities to trade with developed countries lead developing country exporters to improve the quality of their products. This suggests that the quality of exported energy resources can play an important role in the determination of export revenues.

Diversification of export products has been identified as a potential strategy to enhance export revenues. Shahzad et al. [4] investigated the relationship between export product diversification and energy demand in newly industrialised countries (NICs). The study finds that export diversification, both at the extensive and intensive margins, helps to reduce the overall energy demand in NICs. This suggests that diversifying the export basket can have positive implications for both export revenues and energy sustainability.

However, Gozgor & Can [6] argue that diversifying the export basket may also lead to increased energy consumption, which can lead to environmental degradation. They highlight the importance of considering the role of energy in achieving sustainable economic growth. This implies that while diversification can enhance export revenues, it should be accompanied by measures to mitigate the environmental impact.

Gnangnon [7] explored the relationship between export product diversification, poverty, and tax revenue in developing countries. The study finds that export product diversification has a positive effect on non-resource tax revenue, which can contribute to poverty reduction and sustainable economic growth. This suggests that promoting export diversification can have broader socio-economic benefits beyond increasing export revenues.

Furthermore, Gnangnon [8] investigates the relationship between service export diversification, service export revenue stability, and trade openness. The study finds that trade openness positively moderates the relationship between service export diversification and revenue stability. This implies that a more open trade environment can enhance the stability of service export revenues, which is crucial for sustainable economic growth.

Shahzad et al. [4] provide empirical evidence on the relationship between export product diversification and energy demand in newly industrialised countries (NICs). The study finds that export diversification, both at the extensive and intensive margins, contributes to reducing the overall energy demand in NICs. This suggests that diversifying the export basket can not only enhance export revenues, but also have positive implications for energy sustainability.

Nikonenko et al. [9] investigated the influence of internal and external factors on the export of energy resources. The study examines the role of factors such as government policies, infrastructure, market conditions, and international trade agreements. Although this reference does not specifically focus on the dynamics of revenues from energy resource exports, it provides information on the broader factors that can influence export performance, which can be relevant for understanding the dynamics of revenue in national economies.

In conclusion, the analysis of the dynamics of revenues from the export of energy resources is a complex and multifaceted topic. Factors such as the quality of exported products, diversification strategies, and environmental implications must be considered. The reviewed literature suggests that export product diversification can improve export revenues, contribute to poverty reduction, and promote sustainable economic growth. However, careful attention should be paid to the environmental impact of energy consumption associated with diversification. In general, this review of the literature provides valuable information for the scientific paper on the analysis of the dynamics of the revenues of selected national economies from the export of energy resources [10].

3 Methods

The first step in conducting an analysis of the dynamics of revenues of selected national economies from the export of energy resources is the selection of energy raw materials whose exporters will be subject to research. The selection was made based on an analysis of global energy consumption in the years 2010–2020. The consumption of energy resources in the years 2010–2020, considering average values and percentage changes, is presented in Table 1.

Table 1. Global energy consumption by energy raw materials expressed in Exajoules per year.

Energy Resources	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Annual average value for the years 2010–2020	Change % 2010 to 2020
Petroleum	172,53	174,19	176,64	178,54	179,65	183,63	186,87	189,50	191,33	191,89	174,20	181,72	0,97
Natural gas	113,78	116,49	119,54	121,49	122,40	125,22	128,11	131,53	138,16	140,54	137,62	126,81	20,95
Coal	151,21	158,47	159,08	161,97	162,50	158,64	156,61	157,40	159,26	157,64	151,42	157,65	0,14
Radioactive elements	25,99	24,75	22,91	22,95	23,28	23,46	23,66	23,74	24,13	24,93	23,98	23,98	-7,73

Source: Own elaboration based on BP Statistical Review of World Energy 2021

According to Table 1, the raw material characterised by the highest level of consumption in the world during the period under study was crude oil (an average of 181.72 exajoules per year). However, the raw material characterised by the highest level of consumption growth in the world in the period under study was natural gas, whose consumption increased by 20.95% comparing 2010 to 2020. Therefore, crude oil was selected to conduct research on the impact of the export of energy raw materials on economic growth. And natural gas.

The next step was to create a ranking of exporters, based on average data on the volume of exports in the examined years, divided into crude oil and natural gas, from which 10 countries were selected with the highest levels of exports. The ranking of exporting countries of selected energy raw materials is presented in Table 2.

Table 2. Ranking of oil and natural gas exporting countries.

Position in the ranking of oil exporters (2010–2020)	State	Position in the Natural Gas Exporter Ranking (2010–2020)	Position in the Natural Gas Exporter Ranking (2010–2020)	State	Position in the ranking of oil exporters (2010–2020)
1	Saudi Arabia	outside the TOP 30	1	Russia	2
2	Russia	1	2	Qatar	22
3	Iraq	outside the TOP 30	3	Norway	11
4	Canada	4	4	Canada	4
5	U.A.E	23	5	USA	14
6	Nigeria	12	6	Australia	27
7	Kuwait	outside the TOP 30	7	The Netherlands	outside the TOP 30
8	Iran	22	8	Algeria	20
9	Angola	outside the TOP 30	9	Turkmenistan	outside the TOP 30
10	Venezuela	outside the TOP 30	10	Malaysia	24
11	Norway	3	11	Indonesia	26
12	Kazakhstan	17	12	Nigeria	6
13	Mexico	outside the TOP 30	13	Germany	outside the TOP 30
14	USA	5	14	Belgium	outside the TOP 30
15	Brazil	outside the TOP 30	15	Trinidad and Tobago	outside the TOP 30
16	Oman	20	16	Bolivia	outside the TOP 30
17	Libya	29	17	Kazakhstan	12
18	United Kingdom	18	18	United Kingdom	18
19	Azerbaijan	25	19	Myanmar	outside the TOP 30
20	Algeria	8	20	Oman	16
21	Colombian	outside the TOP 30	21	Uzbekistan	outside the TOP 30
22	Qatar	2	22	Iran	3
23	Ecuador	outside the TOP 30	23	U.A.E	5
24	Malaysia	10	24	Brunei	outside the TOP 30
25	Congo	outside the TOP 30	25	Azerbaijan	19
26	Indonesia	11	26	Bulgaria	outside the TOP 30
27	Australia	6	27	France	outside the TOP 30

(continued)

Table 2. (continued)

Position in the ranking of oil exporters (2010–2020)	State	Position in the Natural Gas Exporter Ranking (2010–2020)	Position in the Natural Gas Exporter Ranking (2010–2020)	State	Position in the ranking of oil exporters (2010–2020)
28	Gabon	outside the TOP 30	28	Equatorial Guinea	30
29	Sudan	outside the TOP 30	29	Libya	17
30	Equatorial Guinea	28	30	Egypt	outside the TOP 30

Source: Own elaboration based on BP Statistical Review of World Energy 2021

Based on the data included in Table 2, 10 countries were selected with the highest levels of crude oil and natural gas exports. Since some countries are in the top ten of the ranking for oil and natural gas exports, the next ones were selected in such a way that the number of selected countries was the same for both raw materials. The countries initially qualified for the study were: Saudi Arabia, Algeria, Angola, Australia, the Netherlands, Indonesia, Iraq, Iran, Canada, Qatar, Kazakhstan, Kuwait, Malaysia, Nigeria, Norway, Russia, Turkmenistan, the USA, Venezuela and the United Arab Emirates. During the data acquisition process, significant gaps were found in the data on Turkmenistan, which resulted in Germany being named the next country in the list of natural gas exporters.

Dynamics analysis is used to represent the magnitude and direction of the development of phenomena. In other words, it consists in establishing the degree of increase or decrease of the studied phenomenon over time. “The basis for the analysis of the dynamics of phenomena is a statistical time series. A time series (dynamic, developmental, chronological) is the sequence of values of the phenomenon studied observed in successive units of time” [11].

Absolute increments inform (in nominal units) about the differences between the values of a given phenomenon in subsequent periods; the following are distinguished:

Single basic increments, the difference between the level of the phenomenon in the studied period and the basic (base) period:

$$\Delta_{t/1} = Y_t - Y_1$$

Chain increment - the difference between the level of the phenomenon in the studied period to the previous period:

$$\Delta_{t/t-1} = Y_t - Y_{t-1}$$

Dynamics indicators defined by the Central Statistical Office inform (in percentage) about changes in the level of the phenomenon in subsequent periods in relation to the level of the phenomenon in one fixed period adopted as a comparative period [12].

Single-basic indices show how the value of the phenomenon has changed (percentage) in a given period relative to the basic period.

$$i_{t/1} = Y_t/Y_1$$

Chain indices show how the value of the phenomenon has changed (percentage) in a given period compared to the previous period:

$$i_{t/t-1} = Y_t/Y_{t-1}$$

The average rate of change $(i_G-1) \times 100\%$ informs by what percentage of the average values of the studied phenomenon changed from period to period.

$$\bar{i}_G = \sqrt[n-1]{\prod_{t=2}^n i_{t/t-1}}$$

Fuel exports as a percentage of exports of goods from selected exporting countries in 2010–2020 with the average pace of change are shown in Table 3.

Table 3. Fuel exports as a percentage of exports of goods from selected exporting countries in 2010–2020 with the average rate of change.

Country	WTO Country Code	Average rate of change - i_G	Fuel Export
Angola	AGO	-0,84%	95,4%
U.A.E	ARE	3,63%	52,8%
Australia	AUS	-7,04%	25,0%
Canada	CAN	-2,67%	23,7%
Germany	DEU	-0,79%	2,1%
Algeria	DZA	-5,57%	87,2%
Indonesia	IDN	-6,20%	25,5%
Iran	IRN	-13,36%	62,4%
Iraq	IRQ	-0,56%	97,7%
Kazakhstan	KAZ	-2,06%	68,5%
Kuwait	KWT	0,01%	93,2%
Malaysia	MYS	-3,25%	16,9%
Nigeria	NGA	0,18%	89,9%
The Netherlands	NLD	-3,05%	11,2%
Norway	NOR	-2,53%	60,8%
Qatar	QAT	-1,23%	87,6%
Russia	RUS	-4,35%	59,1%
Saudi Arabia	SAU	-2,56%	82,0%
USA	USA	5,88%	10,5%
Venezuela	VEN	-3,46%	89,2%

Source: own elaboration

According to Table 3, most exporting countries have, on average, a negative average rate of change, which means that the revenue from fuel exports in total exports of goods decreased in 2010–2020. The largest negative average rates of change from year to year were recorded in Iran (13.36%), Australia (7.04%) and Indonesia (6.20%). Only in 4 countries did the average rate of change in fuel exports increase in: Kuwait (0.01%), Nigeria (0.18%), the United Arab Emirates (3.63%) and the USA (5.88%). For the USA, the country with the highest average rate of change, the largest year-to-year increases of approximately 130% are in 2017 and 2018 (which corresponds to approximately 3 percentage points higher revenue from fuel exports as a % of goods exports). However, compared to 2010, the largest increase was in 2019 - almost 200% (7 percentage points higher revenues from fuel exports as a % of goods exports). Countries whose fuel exports constitute the dominant percentage (close to or over 90%) of total goods exports are: Angola, Algeria, Kuwait, Iraq, Nigeria, Qatar, and Venezuela. In most of these countries, in the last years of the analysed period 2017–2018, there was a significant decrease in fuel exports as a percentage of total exports. The declines ranged from several to several dozen percentage points, for example, in Algeria 43 percentage points compared to 2010. The exceptions here were Kuwait and Nigeria. Significant declines in fuel exports as a percentage of total exports have also been observed in Saudi Arabia, Russia, and Iran in recent years.

4 Discussion

The results indicate that most exporting countries experienced a decrease in fuel export revenue as a percentage of total goods exports between 2010 and 2020. This is supported by the negative average rates of change observed in these countries (Roy & Yasar, 2015). Specifically, Iran, Australia, and Indonesia had the highest negative average rate of change from year to year. On the other hand, only four countries saw an increase in the average rate of change in fuel exports. Kuwait, Nigeria, the United Arab Emirates, and the USA [13].

The United States stands out as the country with the highest average rate of change in fuel exports. The largest year-to-year increases were observed in 2017 and 2018, corresponding to an approximately 130% increase in revenue from fuel exports as a percentage of goods exports. However, the most significant increase compared to 2010 occurred in 2019, with an increase of almost 200% [13].

It is interesting to note that some countries rely heavily on fuel exports, with fuel exports constituting a dominant percentage of their total goods exports. These countries include Angola, Algeria, Kuwait, Iraq, Nigeria, Qatar, and Venezuela. However, in most of these countries, there was a significant decrease in fuel exports as a percentage of total exports in the last years of the analysed period (2017–2018) [13].

When these results are compared with other research, it is important to consider the broader context of energy, climate change, and security. The Russian strategic conundrum, for example, highlights the potential challenges faced by countries heavily reliant on fossil fuel exports. Concerns about climate change and the shift to renewable energy sources may make fossil fuel exports less relevant or even redundant in the future [14].

Additionally, the impact of fuel prices on export competitiveness is another important factor to consider. Higher fuel prices can affect the competitiveness of exporting

countries, leading to production losses [15]. This highlights the need for countries to diversify their export sectors and reduce dependence on fossil fuel exports.

Furthermore, the COVID-19 crisis has brought attention to the need for a just and green post-pandemic recovery. The decline in carbon-intensive sectors and export revenues due to the transition towards a greener energy mix can have significant economic implications for exporting countries [16]. Governments can respond to these downturns by nationalising fossil fuel assets or implementing policy measures to support a sustainable and resilient recovery [17].

5 Conclusion

Analysis of fuel export trends from 2010 to 2020 reveals a widespread decline in fuel export revenue as a percentage of total goods exports among most exporting countries. Iran, Australia, and Indonesia experienced the highest negative average rate of change, indicating a consistent decrease in the importance of fuel exports in their economies. On the contrary, only four countries, Kuwait, Nigeria, the United Arab Emirates, and the United States, saw an increase in the average rate of change, with the United States standing out for its substantial growth. The study also identified countries that are heavily dependent on fuel exports, such as Angola, Algeria, Kuwait, Iraq, Nigeria, Qatar, and Venezuela, but most of them faced a significant decline in fuel exports as a percentage of total exports in the last years of the analysis period. When contextualised with broader issues such as climate change, energy security, and the impact of the COVID-19 crisis, the findings underscore the challenges and risks associated with dependence on fossil fuel exports. Countries are urged to diversify their export sectors and adopt sustainable strategies to navigate possible economic implications, especially in the face of evolving global energy dynamics and environmental concerns.

Implications:

The study suggests profound implications for countries heavily dependent on fuel exports. The decreasing importance of fuel exports in many economies signals economic vulnerabilities and emphasises the urgent need for diversification. Nations facing decline should anticipate potential economic challenges and consider proactive measures to mitigate the impact on national economies.

Limitations:

Although the analysis provides valuable insights, certain limitations should be acknowledged. The study focusses primarily on quantitative aspects, and a qualitative exploration of policy measures, geopolitical factors, or technological advances could improve the understanding of observed trends. Additionally, the analysis does not delve into the socio-economic impacts within the exporting nations, leaving room for a more comprehensive examination of how these changes affect local communities and industries.

Future Research Directions:

Qualitative Analysis: Complementing the quantitative findings with qualitative insights can offer a more holistic understanding of the factors that influence fuel export trends. This could include exploring the policy framework, geopolitical dynamics, and technological advances that shape fuel export patterns.

Socio-Economic Impacts: Delve into the socioeconomic impacts of declining fuel exports on local communities, industries, and employment. Understanding how these changes affect various sectors of the economy can inform targeted policy interventions [18].

Policy Evaluation: Assess the effectiveness of existing policies in promoting economic resilience and diversification. Identifying successful strategies employed by countries that have managed to diversify away from the heavy reliance on fuel exports can provide valuable lessons to others.

Geopolitical Considerations: Examine how geopolitical factors, such as international relations and conflicts, influence fuel export trends. Understanding the geopolitical context can provide insight into potential future challenges and opportunities for exporting nations [19].

Environmental Sustainability: Investigate the environmental sustainability efforts of exporting countries. Assess how changes in fuel export patterns align with global initiatives to reduce carbon emissions and transition to greener energy sources.

In summary, while the current analysis sheds light on the declining importance of fuel exports, future research should aim to deepen our understanding by exploring qualitative aspects, socioeconomic impacts, policy effectiveness, geopolitical influences, and environmental sustainability efforts in greater detail. Such comprehensive investigations will contribute to more informed and nuanced policy recommendations for countries, which help navigate the challenges of evolving global energy dynamics.

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The Mediating Effect of Strategic Improvisation on the Relationship Between Strategic Awareness and Organizational Excellence in Anbar's General Company for Copper

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Abstract. The aim of this study is to examine the correlation between strategic awareness and organizational excellence, as well as the relationship between strategic improvisation and organizational excellence. Additionally, the study aims to determine the mediating effect of strategic improvisation on the relationship between strategic awareness and organizational excellence. The research focuses on Anbar's General Company for Copper in Iraq, to achieve this, a research model and hypotheses have been developed based on three theories: the Resource-based view (RBV), contingency theory, and The upper echelons theory, a field study was conducted using the survey method, with a total of 3971 owners and managers. Data collected from 250 managers were analyzed using correlation and regression analysis with the Structural Equation Model (SEM), the analysis was performed using SPSS and AMOS software packages. The results of the study revealed that strategic improvisation has a partial mediating effect on the relationship between strategic awareness and organizational excellence. These findings suggest that Anbar's General Company for Copper can gain a competitive advantage by improving their market-driven strategic improvisation.

Keyword: Strategic awareness · Organizational excellence · strategic improvisation.

1 Introduction

Iraq's economy has grown due to globalization and a multicultural workforce, but slow growth and bureaucratic obstacles remain. To remain resilient, Iraqi organizations must embrace modern concepts and strategies while providing efficient and effective services to sustain growth. In this regard, OE is defined as the skill of managing an organization,

and achieving objectives based on a set of practices that include focusing on results, caring for clients, leadership, goal stability, process management, continuous improvement, creativity, mutual benefits among institutions, social responsibility and accomplishing interests for individuals and society [35]. In their study [20] identified to achieve organizational excellence, leaders should promote democracy, and innovation, and value informal communication. This includes involving a diverse group in decision-making and creating sustainable solutions for ongoing improvement. However, according to [1], strategic awareness refers to a specific method used by a corporation to develop a comprehensive grasp of both its internal and external environments in order to ascertain its internal position and forecast its future status. Strategic awareness, according to [2, 17, 22], refers to people's capacity to look beyond the immediate physical bounds and take into account numerous internal and external elements that could have an impact on the organization in the future. Perceptions, awareness, and ideas on prospective future events are included. Hence General Company for Copper, specifically in Anbar, must adapt and improve its approach to stay competitive in a constantly evolving business landscape, this calls for a shift in strategic direction and a proactive mindset to effectively navigate through the changing times [40]. Strategic improvisation refers to the practice of modifying a company's strategic plans in response to opportunities, and it involves fluid decision-making and actions, this process can be influenced by both strategic awareness and organizational excellence. Similarly improvisation can help the company achieve better performance, therefore we can assume that improvisation acts as a mediator between strategic awareness, and organizational excellence previous studies have shown limited results in terms of the connection between strategic improvisation, awareness strategic and organizational excellence [3, 5, 10, 19, 22, 23, 25]. Therefore, this study seeks to fill the knowledge gap in this field. It looks at how strategic improvisation serves as a bridge between organizational excellence and strategic awareness, the importance of organizational excellence is emphasized in the discussion, particularly when it is fostered by aware leaders who can take advantage of opportunities by utilizing the Resource-based view (RBV), contingency theory, and The Upper Echelons theory. Consequently, it is feasible to assert that the primary inquiry in the current research relates to the problem at hand:

Can strategic improvisation play a role in bridging the gap between strategic awareness and organizational excellence in Anbar's General Company for Copper?

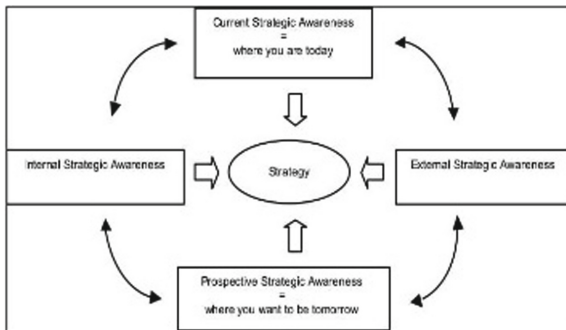
The main objective of this study is to examine the level of strategic awareness in entrepreneurship and organizational excellence and how they influence strategic improvisation within Iraq's Anbar General Company for Copper. This research studies how strategic awareness and improvisation impact Anbar's General Company for Copper. The goals are to analyze their direct influence, assess their impact on achieving organizational excellence, and study their indirect effect on strategic awareness and organizational excellence. The study's findings will help the company improve its strategies and customer services. The research is divided into three parts: theory, methodology, and results with recommendations for future research.

2 Theoretical Framework

2.1 Strategic Awareness

During the 1980s, a new idea developed regarding the significance of achieving strategic renewal needs and gaining a deeper understanding of both the internal and external environments of an organization. This concept aimed to uncover and capitalize on potential opportunities while also mitigating threats posed by external factors. By taking into account the competitive environment in which the organization operates, this approach aimed to ensure the organization’s longevity and secure a competitive advantage [39].

Strategic awareness is the ability to understand the overall impact and long-term effects of changes in work. It involves anticipating future consequences of current actions and recognizing the benefits of an organization’s strategic direction, According to [38], business success in strategic management relies on this awareness and the assimilation of it by managers, In his 2017 article titled "The Magic of Strategic Consciousness" [9], the author emphasizes the importance of combining strategic awareness with access to non-analytical data to integrate internal knowledge into decision-making [7], This is because leadership sensitivity and intuition have a significant impact on strategic behaviour, making it essential to ensure the consistency and effectiveness of chosen strategic objectives, especially in the absence of planning, Therefore, grasping the strategic direction and attaining mental maturity are crucial components of strategic awareness, Based on [4] research, strategic awareness can be characterized into four dimensions: internal strategic awareness, current strategic awareness, and prospective strategic awareness [11].



Source: Pencarelli, T., Savelli, E., & Splendiani, S. (2009). Strategic awareness and growth strategies in Small Sized enterprises (SEe), *International Journal of Business & Economics*, 8(1).

To accomplish this goal, the selected scale emphasizes three critical elements: internal strategic awareness, external strategic awareness, and current strategic awareness [27], These aspects are essential for achieving the objectives of the study.

2.2 Strategic Awareness and Organizational Excellence

The notion of superiority has captivated people for thousands of years and was first explored by ancient Chinese philosophers, later adopted by the Greeks. Recently, there has been a growing interest in the concept of "Aristeia" which can be translated as "mightier," among writers and researchers [12]. It is viewed as a comprehensive system where various elements interact and mechanisms come into play, resulting in combined capabilities. According to Al-Salmi (2002), Aristeia is defined as the highest level of performance achieved through the accumulation of experience, knowledge, and skills of personnel, this enables continuous improvement and development within an organization, ultimately allowing it to attain a favorable standing among other organizations, as described by [31]. Strategic excellence, as explained by [28], involves having a deep understanding of various internal and external factors, as well as the current situation, in order to plan and shape the future direction of the company. It has been concluded that organizations can enhance their level of excellence by focusing on developing strategic awareness [15]. This is because strategic awareness enables organizations to identify and seize employment opportunities proactively, generate innovative ideas, dominate the market, and utilize advanced technology. Therefore, businesses with strategic awareness can be considered powerful and well-established enterprises. A study conducted by [13], as cited by [33], found a significant relationship between a company's strategic awareness of its internal and future environment, its desired future state, and its overall excellence. Based on this, we propose the following: **H₁** Relational Strategic awareness positively impacts Organizational Excellence.

2.3 Strategic Awareness and Improvisation

Improvisation refers to the spontaneous and creative actions taken by senior managers in response to unexpected threats and opportunities, using the resources available to them within a limited time frame. This approach helps to preserve the value of the organization and enables it to proactively take advantage of unexpected opportunities on multiple occasions. It is considered a rational process that cannot be achieved by just anyone, requiring individuals to possess specific qualities such as speed, adaptability, shrewdness, resourcefulness, intuition, creativity, agility, innovation, intelligence, alertness, flexibility, strategic thinking, information gathering, as well as proficiency in writing and research [6, 23, 34]. According to [29], organizations equipped with strategic awareness leaders are able to anticipate and prepare for potential issues in advance, allowing them to swiftly tackle any challenges and devise efficient solutions to mitigate their adverse effects. Such a capability is imperative when dealing with environmental changes. From these arguments, we propose the following hypothesis: **H₂**: Relational Strategic awareness has a positive effect on strategic improvisation.

2.4 Strategic Improvisation and Organizational Excellence

This excellence is not temporary but a collection of capabilities that organizations must maintain to remain competitive in the long term. Navigating unexpected and turbulent events is crucial in ensuring the ongoing effectiveness of the organization [26]. This

requires leveraging past and current experiences to respond spontaneously and effectively, providing support to leaders in dealing with various sources of pressure, and implementing interventions such as developing personal adaptation strategies, reducing uncertainty, finding innovative solutions to problems, and taking advantage of opportunities. Instead of replacing planning, it is important to view it as complementary [30]. This approach allows for adaptability and the ability to respond to changes in the environment. Based on the findings of [19] on the adoption of strategic improvisation and the creation of a climate in an organization, we propose the following hypothesis: **H3**: Relational Strategic Improvisation has a positive effect on Organizational Excellence.

2.5 The Intermediary Effect of Strategic Improvisation

Because Ivory Tower planning is encouraged, unforeseen occurrences may impede the process of developing strategic plans, especially when the strategy's implementation would take a long time and these events may not have been taken into account. As reinforced by [3, 18, 19, 24, 37, 41], proposed a notion in this context that is used to adapt to the current circumstances while providing the most effective solutions.

Establishing a link between strategic awareness and organizational excellence was the main goal of this study, Managers become more knowledgeable and adept at understanding the strengths, weaknesses, opportunities, and threats both inside and outside the organization when they have a great ability to adapt and respond to unforeseen scenarios, Organizations must therefore continuously exercise caution and vigilance, Achieving a high quality of business excellence should be everyone's ultimate objective, This study's fourth hypothesis (**H4**): proposes that strategic improvisation mediates the link between strategic awareness and organizational excellence.

3 Methodology

3.1 Research Model

According to the: 1-Resource-based view (RBV) [9], 2-The contingency theory [13], 3-The upper echelons theory [16] are used to underpin this study, Besides it plays a crucial role in investigating the relationship between strategic awareness, Strategic Improvisation and organizational Excellence and also to figure out the mediator effect of Strategic Improvisation on the relationship between strategic awareness and organizational Excellence with the implementation of Firms, In accordance with this aim, the research model and hypotheses are given in Fig. 1:

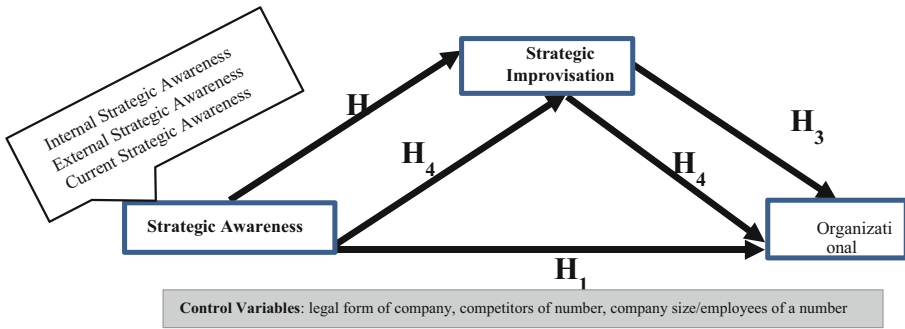


Fig. 1. Research Model.

3.2 Hypothesis

Based on the literature studied, we propose the following hypotheses:

- 1- **H1**: Dimensions of Strategic Awareness has a positive effect on Organizational Excellence.
- 2- **H2**: Dimensions of Strategic Awareness has a positive effect on Strategic Improvisation.
- 3- **H3**: Strategic Improvisation has a positive effect on Organizational Excellence.
- 4- **H4**: Dimensions of Strategic Awareness has a positive effect on Organizational Excellence through Strategic Improvisation.

3.3 Sample and Data Collection

This investigation was carried out at Anbar's General Company for Copper due to the fact that the industry is well-established, and has a wealth of experience, for these companies to succeed in the cutthroat market and contribute significantly to the growth of the area, they must create novel concepts, Additionally, despite the 2003 events, the company was able to carry on with business as usual, which allowed it to grow into one of the top firms within the Ministry of Industry and Minerals and establish distribution networks, These qualities make this industry an excellent setting for us to conduct our empirical analysis.

(Al-Ikhaa&Al-Shaheed) manufacturers in particular interact with other manufacturers in this sector to gain the necessary knowledge and carry out their plans, Therefore, building excellence is required to obtain and utilize the prospective information and strategic improvisation requires strategic awareness as a crucial component. The questionnaire design process was divided into many parts in order to guarantee the quality of the responses. It was designed on a five-point Likert scale to measure the study constructs where respondents can indicate their level of agreement or disagreement on a scale of (1) strongly agree to (5) strongly disagree, In 2023, data were collected over the course of six months using the survey, We used WhatsApp, Email and Face-to-face to send a questionnaire to the CEOs of the companies, General Managers, and Department Heads received survey questionnaires, most of whom were senior managers with extensive knowledge of the organization's historical and present organizational practices connected to strategic

Table 1. Findings from the distribution of the survey questionnaire.

Number of questionnaires distributed	Number of questionnaires retrieved	Number of damaged surveys	Number of questionnaires valid for analysis	recovery ratio	response rate
250	225	25	200	90%	80%

awareness, A total of 250 managers responded out of 3971 questioners as displayed in Table 1.

“External strategic awareness, internal strategic awareness, and current strategic awareness” are the three components of a scale used to measure strategic awareness, this scale was created by [38] and consists of 15 items, [34] produced the organizational excellence scale, which also had seven items and was developed by [32], in addition to the strategic improvisation scale, which included seven items as described by [36], Control variables included the company’s legal structure, the number of competitors, the size of the business and the number of employees.

4 Analysis

Customer experience with ChatGPT in Halal Tourism needs more research. Extensive research is needed to understand more about how ChatGPT, an AI-based chatbot, impacts the entire customer experience in the context of Halal tourism. Moreover, there is avenue to examine how Muslim visitors perceive and utilise ChatGPT, and determine the effect on customer satisfaction, retention, and trust in halal-friendly services. In addition, there is a need for study to examine ChatGPT’s potential to provide Muslim tourists with customized experiences in the Halal travel sector. Moreover, Muslim user Awareness about GPT needs an investigation; Analyse how well-known and understood ChatGPT is among Muslim travellers. The moral implications of using ChatGPT in Halal tourism are one of future research recommendations, giving special attention to issues of cultural sensitivity, privacy, and data security.

There is a growing need to investigate ChatGPT’s multilingual integration capabilities to cater to the diverse linguistic requirements of Muslim travellers. Therefore, it is essential to examine ChatGPT’s proficiency in understanding and responding to various languages used by Muslim visitors. Additionally, it is crucial to evaluate the factors that can aid customers in developing trust in AI-driven services in the context of halal travel. An in-depth analysis of ChatGPT’s compatibility with already-established Halal-friendly travel websites and services should also be conducted. Finally, it is recommended to evaluate the compatibility and synergies between AI-driven chatbots and human-operated services to ensure the best possible experience for Muslim travellers.

4.1 Factor Analysis

We used Factor Analysis to group variables with similar characteristics into a factor. Accuracy is ensured by a KMO scale of at least .6 and a Bartlett test not less than .05 Factor Loading should not be less than .5 to avoid overlapping values. Principal component analysis using the "Varimax" rotation method was the best fit. Include five paragraphs each for Internal Strategic Awareness, External Strategic Awareness, and Current Strategic Awareness, as well as seven paragraphs each for Strategic Improvisation and Organizational Excellence.

The information presented in Table 2 shows that the KMO value has been found to be 92%, This means that the factors obtained from the factorial analysis are more dependable. Furthermore, the Bartlett value is determined to be .000 [21].

Table 2. The results of the factorial analysis of the research dimensions

ITEMS	Factor Loading								
	EFA					CFA			
	1	2	3	4	5	Std. Est	t	P	
Company utilizes its expertise to enhance the development of its products.	.887					.564			
The company possesses the capacity to invest in top-notch expertise.	.756					.847	12.741	.000	
The company is aware of the shifts happening in the market (competitors).	.745					.795	12.651	.000	
The company allocates its different resources to enhance its operations and generate additional value.	.457					De- leted			
The firm fulfills the needs of the customer by creating additional value for them.	.782					.754	11.843	.000	
The population growth rates are observed by the company.		.871				.854		.000	
The company considers the current political atmosphere in society.		.743				.751	16.547	.000	
The company is eager to comply with the regulations that have been released.		.824				.861	17.341	.000	
The company examines the rate of pay within the local community.		.694				.761	17.452	.000	
The company offers energy alternatives-related services.		.714				.872	18.742	.000	
The company has a highly varied group of employees.			.684			.711			
The company ensures that its products maintain a high standard of quality.			.841			.841	17.522	.000	
The company examines feedback provided by clients.			.784			.764	16.471	.000	
The company is valued by society.			.357			De- leted			
The company consistently conducts and promotes market research.			.775			.778	15.471	.000	
they handle unexpected situations immediately.				.746		.647			
They are quick and clever in adapting to new situations or changing circumstances.				.801		.748	16.742	.000	
they address unforeseen issues promptly.				.758		.804	17.953	.000	
They attempt different methods to address problems.				.762		.728	15.742	.000	
They spot potential for new concepts and methods.				.689		.736	18.141	.000	
they take risks in producing new ideas.				.721		.753	17.548	.000	
they show creativity in fulfilling their responsibilities				.708		.697	16.744	.000	
Managers agree that AGCC* signifies a superior level of branding.					.811	.951			
Do you believe that GCBMI is actively involved in shaping the future leaders?					.794	.897	17.549	.000	
Managers hold the belief that GCBMI takes an active role in shaping the leaders of tomorrow.					.753	.887	19.454	.000	
Managers have the belief that AGCC adopts the competency-focused approach to recruiting and selecting candidates for hire.					.692	.957	19.976	.000	
Managers agree that AGCC's current initiative, named "When the possibilities are endless, obstacles worth abstract our goals".					.795	.882	18.578	.000	
Managers have confidence that AGCC has the potential to achieve a superior level of performance beyond everyone's expectations.					.746	.869	19.811	.000	
The manager believes that corporate social responsibility-driven community development initiatives strive to promote environmentally friendly technology					.414	De- leted			
Explained variance ratio%	76.58			GFI		.952			
KMO	.924			TLI		.983			
Bartlett	.000			CFI		.985			
* Anbar's General Company for Copper				RMS EA		.057			

4.2 Correlations and Availability of Research Variables

All variables are positively correlated with one another [14, 29] as indicated in Table 3.

4.3 Hypothesis Testing

Multiple regression analysis of strategic awareness on (Strategic Excellence and Strategic Improvisation).

Table 3. Correlations, Chronba, AVE, Standard Error, t, and the mean

	Chronba	AVE	Mean	Std.Est	t	Sig	Internal Strategic Awareness	External Strategic Awareness	Current Strategic Awareness	Strategic Improvisation	Organizational Excellence
Internal Strategic Awareness	.967	.67	4.01	.73	19.36	.00	1				
External Strategic Awareness	.958	.75	3.81	.76	14.84	.00	.542*	1			
Current Strategic Awareness	.947	.64	3.78	.73	15.41	.00	.671*	.627*	1		
Strategic Improvisation	.977	.61	3.87	.62	19.78	.00	.657*	.571*	.601*	1	
Organizational Excellence	.984	.71	3.78	.76	14.63	.00	.584*	.535*	.586*	.613*	1

**p<0,01

Table 4. The result of testing the first three hypotheses

Variables	Dependent Variable								
	Organizational Excellence			Strategic Improvisation			Organizational Excellence		
	B	t	Sig	B	t	Sig	B	t	Sig
legal form of company	.37	.7	.00	.11	.12	.0	.17	.6	.00
competitors of number	.0	.6	.00	.13	.1	.1	.38	.7	.01
company size/employees of a number	.8	.1	.21	-.05	-.72	.4	.16	.2	.00
Internal Strategic Awareness	.07	.1	.17	.12	.21	.0	/	/	/
External Strategic Awareness	.16	.3	.00	.0	.2	.0	/	/	/
Current Strategic Awareness	.17	.3	.00	.4	.5	.0	/	/	/
Strategic Improvisation	/	/	/	/	/	/	.44	.10	.00
R	.651			.465			.721		
R ²	.644			.449			.691		
R ² _{adj}	.651			.465			.72		
F	62.81			30.01			123.79		
P	.00			.00			.00		

Table 4 shows that the first hypothesis is significant at a level of .05, with an R² value of .644 and an F value of 62.81. This means that there is a significant effect of Strategic awareness on Organizational Excellence in Anbar’s General Company for Copper. The second hypothesis is also significant, as it has an R² value of .449 and an F value of 30.01 at a level of .05, This indicates that there is a significant effect of strategic awareness on Strategic Improvisation in the same company, Simple Linear Regression was used to determine the expected change in Organizational Excellence due to a change in Strategic Improvisation, with the Beta coefficient providing insight. R² was used to assess the model’s ability to interpret the relationship between the variables, The F test was employed to assess the significance of the regression model at a level of .05, The third main hypothesis demonstrated a significant effect, with an R² value of .691 and an F value of 123.79 Thus, there is a significant effect of strategic Improvisation on Organizational Excellence in Anbar’s General Company for Copper.

4.4 Path Analysis to Investigate a Connection Between an Improvisational Organization that Mediates Awareness Strategy and Organizational Excellence

Researchers utilized Path Analysis to explore the connection between Strategic Improvisation, Strategic Awareness, and Organizational Excellence, To study the intermediate impact of Strategic Improvisation, they followed specific steps, including confirming that:

1. The independent variable significantly affects the dependent variable, with a statistical significance level of $\alpha \leq 0.05$.
2. The mediating variable is significantly affected by the independent variable, with a significance level of ≤ 0.05 .

- Both the independent and mediating variables significantly impact the dependent variable, with a significance level of $\alpha \leq 0.05$.

After confirming these conditions, the researchers discovered that the model’s overall influence is divided into two main elements:

- The independent variable directly affects the dependent variable.
- The mediating variable indirectly impacts the dependent variable.

A third variable can indirectly affect the dependent variable, To test this, the "Sobel" test is used to confirm the significance of the indirect effect, as shown in the Table 5.

Table 5. Path Analysis

Variables	Organizational Excellence								
	B	t	Sig	B	t	Sig	B	t	Sig
legal form of company	.17	6.22	.00	.18	6.47	.01	.17	6.01	.00
competitors of number	.37	7.12	.00	.35	6.30	.00	.39	7.11	.00
company size/employees of a number	.12	1.82	.06	.13	1.91	.04	.12	2.29	.02
Internal Strategic Awareness	.11	1.92	.07	/	/	/	/	/	/
External Strategic Awareness	/	/	/	.13	3.08	.00	/	/	/
Current Strategic Awareness	/	/	/	/	/	/	.11	1.71	.07
Strategic Improvisation	.43	9.12	.00	.41	8.25	.00	.39	7.95	.00
R	.839			.849			.838		
R ²	.709			.721			.713		
F	101.35			106.11			102.12		
P	.00			.00			.00		
Effect	effect		P	effect		P	effect		P
direct impact	.24		.00	.311		.00	.291		.00
Indirect influence	.089		.07	.141		.00	.094		.07
Indirect influence (Sobel)	.141		.00	.159		.00	.211		.00
Indirect influence total	.62			.54			.69		

The findings demonstrated that when Strategic Improvisation was added to Internal Strategic Awareness in the model, it significantly improved the model’s ability to explain outcomes, The R² value of 70.9% indicated a strong and significant model overall. Additionally, the effect size analysis revealed a total effect of 24%, which was statistically significant. The direct effect on Organizational Excellence accounted for 8.9% of the total effect and was not statistically significant, while the indirect effect accounted for

14.1% and was statistically significant, representing 62% of the total effect, the relationship between Internal Strategic Awareness and Organizational Excellence is completely mediated by Strategic Improvisation. When Strategic Improvisation is introduced alongside external Strategic Awareness, it significantly increases the explanatory power of the model. The overall model is deemed significant with a value of ($R^2 = 72.1\%$), which is statistically significant at a level of significance of ($p < 0.05$). The presence of Strategic Improvisation has a total effect size of (31.1%), statistically significant at a level of significance of (.05%), The direct impact of external Strategic Awareness on Organizational Excellence is (14.1%), statistically significant at a level of significance of (.05%), The indirect effect is (15.9%), representing 54% of the total effect, and is statistically significant at a level of significance of (.05%), These significant direct and indirect influences demonstrate that Strategic Improvisation partially mediates the relationship between external Strategic Awareness and Organizational Excellence.

The study found that including Strategic Improvisation along with Current Strategic Awareness in the model significantly improved its explanatory power, with an R^2 value of 71.3%. This indicates that the model is reliable overall. Additionally, the total effect size was 29.1%, which was statistically significant at a significance level of $p < 0.05$. The direct effect of Current Strategic Awareness on strategic improvisation was 9.4%, which was not statistically significant. However, the indirect impact of Current Strategic Awareness on Organizational Excellence, mediated by Strategic Improvisation, was 21.1%, representing 69% of the total effect. This indirect impact was statistically significant at a significance level of $p < 0.05$. These findings suggest that Strategic Improvisation completely mediates the relationship between Current Strategic Awareness and Organizational Excellence.

5 Discussion

The study used a theoretical framework that was created from previous research. The main aim of the research was to examine how Strategic Improvisation acts as a mediator between strategic awareness dimensions and organizational excellence. The significance of this topic is that it can provide guidance to Anbar's General Company for Copper in finding avenues for growth in a highly competitive business environment. The outcomes of hypothesis testing indicate that there is a relationship between the variables being studied. The importance of both internal and external strategic awareness in the success of an organization is highlighted. Anbar's General Company for Copper exemplifies this by adjusting to legal changes, market expansion, and wage variations in order to remain competitive, by utilizing its resources, expertise, and knowledge, the company not only meets customer demands but also identifies opportunities and manages risks. Additionally, it emphasizes the significance of considering competitors while developing strategies and promoting harmony and collaboration among business functions [32, 38]. The ineffectiveness of current strategic awareness may be due to the strong connection between the other two dimensions. This circumstance can result in difficulties in attaining organizational, This situation can provide an opportunity for further research to be conducted, A significant outcome of our research highlights that strategic improvisation has a partial mediator role in strategic awareness and organizational excellence,

This perspective is in-line with the contribution of [37]. This discovery emphasizes the need for Anbar's General Company for Copper to prioritize the development of awareness strategies and strategic improvisation in order to gain a competitive edge, Rather than accepting the current circumstances, expanding the range of products and services in response to customer demands and anticipating competitor strategies will lead to progress. in foreign markets.

6 Limitations and Future Direction

Similar to other forms of scientific research, this study has its own limitations that should be acknowledged. Recognizing these constraints will aid in enhancing future research in this area, one limitation of this study is its narrow focus on measuring Strategic Improvisation as a single dimension, when in fact it should be recognized as a multidimensional concept, to overcome this limitation, future studies should examine different factors that influence Strategic Improvisation, such as market orientation, technology orientation, and innovation success. These factors are progressively crucial for strategic improvisation and should be explored in future research, one of the drawbacks of this study pertains to the utilization of qualitative data, we relied on qualitative data to assess organizational excellence because we were constrained by the organization's policy which prevented us from acquiring original data. Hence, we must restrict ourselves to subjective information, Nonetheless, subjective data is commonly utilized in organizational studies [8, 16], an additional constraint arises from the fact that the respondent's answers may be influenced, leading to a biased outcome in the empirical study. Ultimately, we decided to focus the empirical research on Anbar's General Company for Copper, while excluding other sectors from this investigation, Several significant discoveries from this study indicate that they can be relevant for other industries within the service sector, Specifically for Bagdad's General company for copper and Mechanical industries. The impact of different service sector industries in various developing countries needs to be further studied in future research.

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The Role of Ukraine in Ensuring Global Food Security

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Abstract. It is established that resolving nearly all key problems of the agro-industrial complex functioning as well as searching for opportunities to raise the population’s standard of living are aimed at providing the population with food. It is proved that food security is of special significance in the life support of society, since availability of food is fundamental for human life. The characteristic features of food security in the current conditions are revealed. It is substantiated that self-sufficiency, independence, accessibility and quality are paramount for the process of shaping the state policy of food security. Among all the principles, the principle of self-sufficiency have been identified as that of ultimate importance, as it provides for the agro-industrial complex development and enables meeting the needs of the majority of population for foodstuff at the expense of domestic production. It is also justified that the agriculture and food industry are a system-forming center in ensuring food security.

Europe plays an important role in addressing the issue of food security. The countries of the European Union and Ukraine occupy leading positions in food exports. Since Ukraine is a country with a developed agricultural sector, one of the leaders in this industry’s development globally, it should be among the countries responsible for solving foodstuff issues. It is noted that throughout the history of statehood, the problem of stable food supply to the population has been among the most important ones as it affects national security. There are different ways of combating food security problems by states. The article examines support for sustainable economic development, given the provision of food security based on self-sufficiency. The authors put forward the suggestions with regard to formation of the main directions for achieving food security on the basis of the principles of sustainable economic development.

Keywords: food security · malnutrition · hunger · Europe · Ukraine

1 Introduction

People are malnourished and undernourished in many countries of the world, but the ratio of hungry in different countries is different. The problem of malnutrition is very widespread in poor countries. The problem of malnutrition is very widespread in poor countries. FAO notes that every seventh person in the world is hungry, and the demand for food will increase by 70% until 2050. Data from international organizations indicate that 80% of the world's hungry work in industries that produce agricultural products or food. Along with other problems of economic development in the current context, the problem of food security is becoming more acute and of increasing importance in the structure of economic security. It is in providing the country with food intertwined and concentrated in a complex knot virtually all modern numerous problems and pain points of functioning of the agro-industrial complex and its basis - agriculture. As noted above, providing the population with sufficient food is now one of the most important problems. According to official data, 40 million people die every year from hunger and its consequences. This number includes 13 million children. Micronutrient deficiency (hidden hunger) is experienced by more than 40% of the population. Therefore, the problem of global food security and food security of countries is more relevant than ever. The state of the food system has been deteriorating over the past four years. This is due to the shocks of 2020–2023. The Covid-19 pandemic, high prices for raw materials and food products, economic, social and political upheavals have caused systemic problems in the food market. The war in Ukraine has caused a decrease in supplies to agricultural markets and an increase in food prices. The urgent issue of food security is also to ensure that the agricultural sector is in a good condition. Unconditional is the fact that the level of global food security depends on the production of agricultural products of Europe and Ukraine.

2 Literature Review

The problem ensuring of food security is the subject of attention of international organizations, governments and scientists. Food security is an important element of poverty alleviation. Food and Agriculture Organization (FAO), United Nations (UN), World Economic Forum (WEF), World Bank Group, World Resources Institute (WRI) are involved in food security issues. The main tasks of the United Nations Decade of Action on Nutrition are to eliminate hunger, provide food security and food safety. Nutrition and food security issues remain topical for FAO and WHO (FAO 2014, 2017). The Second International Conference on Nutrition (ICN2) was jointly organized by the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO) in 2014. In 2015, the 2030 Agenda for Sustainable Development was adopted. States have assumed obligations that define sustainable development (Amoroso 2017). The World Bank (WBG 2018) is working to create a food system that achieves food security and provides food for everyone, everywhere, every day. FAO's goal in the field of food security is to ensure global food security and regular access of people to high quality products for healthy and active lives (FAO 2017). The World Economic Forum has a mission to create inclusive, sustainable, efficient and nutritious food systems (WEF 2018).

These systems should focus on leadership, market relations and collaboration based on knowledge and innovation, in accordance with the Sustainable Development Goals. The article (Gross et al. 2000) examines food security from the perspective of four main dimensions, namely availability, access, utilization and stability. The authors offer tools that combine theory and practice to stimulate food innovation. Simon Maxwell (1996) explores postmodern movements in food security. The article examines the changing approaches to the study of food security since 1974: global food security, national food security, food security at the household and individual level; ensuring access to food; sufficiency of livelihood; objective and subjective indicators of food security. Authors of the article (Godfrey et al. 2010) consider the issue of providing the population with food. They argue that global demand for food will continue to increase for at least another 40 years. The authors focus on preventing food loss and waste (FLW), which will contribute to solving problems of both global food security and environmental sustainability in the world (Majid Shafi-Jud 2016). Indian scientists pay considerable attention to the problem of food supply.

The problem of food security in India against the backdrop of rapidly growing agricultural production is discussed in the article (Pandey, Panchal 2023). The article (Esakkidevi, Rani 2023) defines the role of organic production and consumption as one of the components of food security in providing healthy food. Online grocery shopping makes food more accessible to consumers and puts the consumer at the center of companies' strategic planning (Raju (2023).

Ukrainian scientists have been involved in the study of food security, including Borschevsky P. (2000), Sabluk, P. (2011). Irtyshcheva I., Ponomarova M., Dolzhykova I (Irtyshcheva et al. 2019), Bilan Y., Mostenska T., Kovtun O., Yurii E. (Bilan 2019), Markina I. (Markina 2018) and other scientists and household food expenditure. They exploring the problem of maintaining an acceptable level of food security, rightly point out that at the center of the problem of food security is a man.

3 Research Methodology

The purpose of the article is to assess the impact of Ukraine on the state of global food security. This study is intended to determine the relationship between the state of the world food market and the war in Ukraine. The theoretical basis of the study is the publications of Ukrainian and foreign scientists who are well-known experts in the field of food security. The following methods were used in the work: analytical, grouping, comparison, generalization, graphic. The research information base includes official documents and reports of international organizations such as: The Food and Agriculture Organization (FAO) - to determine the state of the food market; The Economist Group - to determine the Global Food Security Index; World Bank Group - to determine the availability of food for different social groups of the population; World Health Organization (WHO) - to determine the impact of malnutrition on health.

4 Results

Scientists give the following interpretation to the concept of “food security”: Food security is the protection of the vital interests of man, which is expressed in guaranteeing the state of unimpeded economic access to food for the purpose of maintaining its normal life activity.

Food security is characterized by the following features (Borschevsky 2000): ensuring that the population has the necessary food at a scientifically sound medical level; creation of the necessary food reserves in the state, in case of unforeseen circumstances (natural disasters, crop failures, floods), in the amount of six-monthly, and even annual stocks; provide opportunities to enter the global market with competitive products to address global and regional food and energy issues, as well as financial problems of economic agents.

The Global Food Security Index (GFSI) is one of the indicators that allows us to determine the state of food security both for 113 countries as a whole and for each individual country. The GFSI was at its highest in 2019 (62.6 out of 100 possible). In 2022 it is 62.2 (GFSI 2022, p. 5).

In 2022, GFSIs for all regions were above the global average except for sub-Saharan Africa. North America posted the highest GFSI in 2022 (Fig. 1).

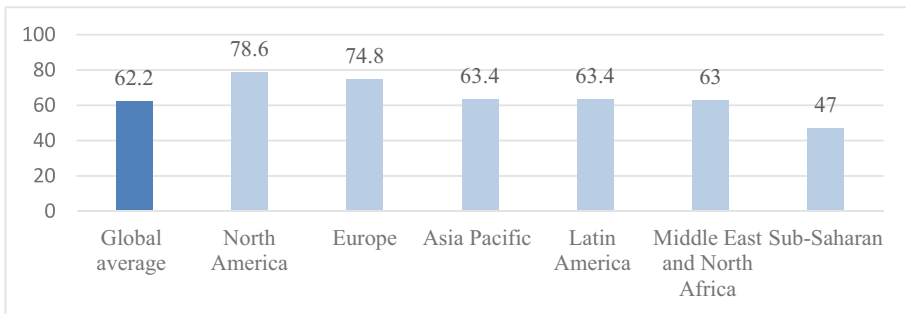


Fig. 1. Overall GFSI 2022 scores, by region. Sours: (GFSI 2022, p.5)

Significant declines in the two components of the GFSI (availability; food quality and safety) led to a deterioration in the GFSI score. At the same time, the data for the other two components also showed a decrease, but at a slower pace. Food availability and sustainability of food markets also show negative trends. The war in Ukraine has led to rising food prices.

Figures show that the world population is growing rapidly, and therefore the amount of food consumed is only increasing. According to the FAO, more than 700 million people worldwide are undernourished. Moreover, in Africa this figure is 55.5%, in Asia – 23.9%, in Latin America and the Caribbean – 37.3%.

Throughout the history of statehood, the problem of stable food security for the population has been one of the most important, as national security depends on it. So, different countries have come up with ways to combat malnutrition.

For example, Brazilian theory: starving is possible if you support local farmers. By investing in the food industry (small business) and agriculture, Brazil has reduced the number of people affected by poverty by 20 million from 2003 to 2009. The state purchased food from small farms, providing socio-economic development in rural areas.

Example of France: In May 2018, the French Parliament approved a law banning large food supermarkets from throwing away unsold but edible food. Now they are obliged to donate such goods to charities that give it to the poor. It is worth paying tribute to the French - an effective way out of a critical situation.

The principles of self-sufficiency, independence, accessibility and quality form the food security system of countries. The formation of the country's policy in ensuring food security should be based on these principles. The state must also take into account the level of development of food production, the possibility of exporting and importing food, the level of income of the population, and the availability of food for the poor.

Planning for the country's economic development must necessarily include solving problems of ensuring nutritional sufficiency (Bilan, Mostenska, Kovtun 2019, p. 26).

The main components of the state policy formation in the field of food security are shown in Fig. 2.

Food security is a component of the country's economic security. Food security is seen as the ability of individuals, households, and communities to acquire food that is sufficient, reliable, nutritious, safe, acceptable, and sustainable (Mostenska et al. 2022).

The food security level of many countries depends on the ability to import food. The market for agricultural products is formed under the influence of various factors, including state of the agricultural sector of major market players.

The war in Ukraine caused a disruption in the functioning of world food markets. This is due to rising prices for fuel and fertilizers (Russia is one of the main exporters of fertilizers). The food crisis has intensified as a result of conflicts, climate shocks, and the Covid-19 pandemic. Creating sustainable food systems requires solutions that take into account the impacts of many factors. (NRC 2022).

Food security of many countries of the world depends on EU and Ukraine. Ukraine is one of the key players in the food market. America and Europe are the largest grain exporters in the global agricultural trade. At the same time, Asia is the largest importer of these products.

Food production and exports are constantly growing in the world (Fig. 3).

World exports of cereals almost doubled over the period 2000–2020. At the same time, Europe during this period increased grain exports three times. By 2020, Ukraine has increased grain exports by 40 times.

As noted above, the demand for food will increase by 70% by 2050. This means that around 1 billion tonnes of cereals will need to be produced in excess of existing volume. And this challenge is addressed also to EU and Ukraine.

The role of Ukraine in formation of the world food markets is explained by the following.

Ukraine value added of agriculture, forestry and fishing was 11 014.8 USD million (2015 prices) in 2020 or 11.3% in total GDP. Ukraine production of primary crops - 125 928 thousand tonnes (21 290 USD million).

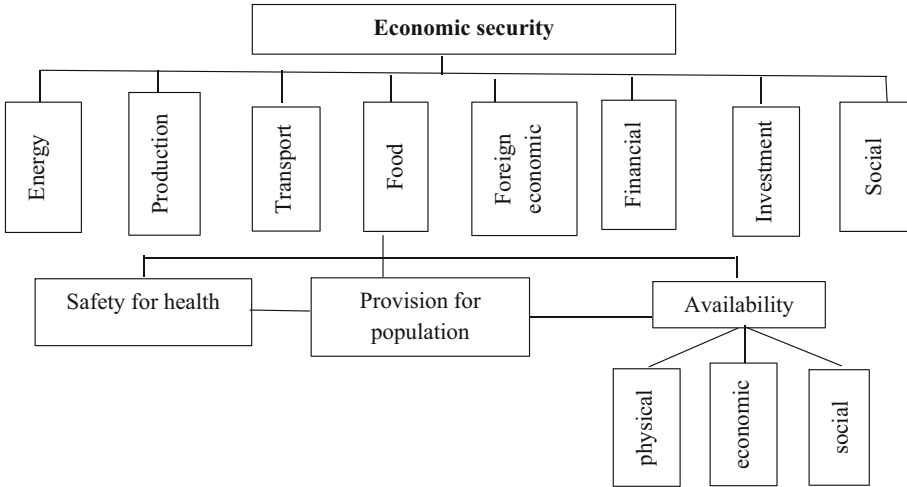


Fig. 2. The main components of the state policy formation in the field of food security. Source: Author’s development

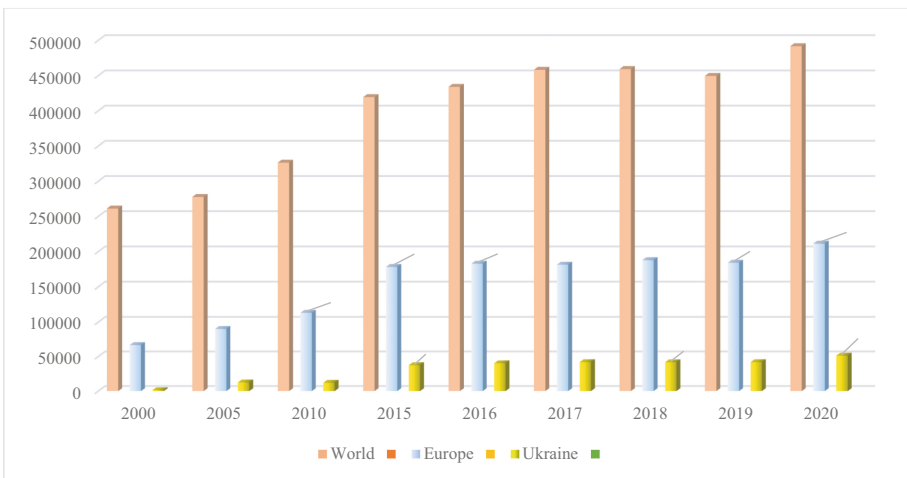


Fig. 3. Cereals exports (thousand tonnes). Source: FAO 2022.

Ukraine is one of the key players in the global agricultural market. Ukraine produces wheat, corn, barley and sunflower oil in volumes that exceed domestic consumption. Therefore, Ukraine exports these products. The decline of Ukrainian exports has a negative impact on global food security (Table 1).

Despite the general crisis in the country the agricultural sector is working in this difficult time. The war in Ukraine is negatively impacting the world food system. Some regions of the world, especially the Middle East, are directly dependent on supplies from Ukraine. Ukraine is a key player in solving the problem of global hunger (Table 2).

Table 1. International trade of Ukraine of food and agriculture production, 2020 (USD million)

	Food Exports	Food Imports	Foreign trade balance
Fruit and vegetables	575	1297	-722
Cereals and preparations	9 806	443	9363
Meat and meat preparations	669	175	494
Oils (excluding butter)	207	586	-379
Dairy products and eggs	190	297	-107
Fats and oils (excluding Butter)	5 747	216	5531
Sugar and honey	389	73	316
Other food	2279	1467	812
Fish	50	801	-751
All food	19913	5354	14559

Source: FAO [2022](#)

Table 2. Food trade indicators, 2020 (USD million)

	World	Europe	Ukraine
Food exports	1422 249	614 654	19 913
Food imports	1 455 353	576 015	5 354
Food net trade	-30 478	38 639	14 558

Source: FAO [2022](#)

Effective solutions are needed to create sustainable food systems. They must take into account multiple factors, ensure food security and counteract the negative consequences of food insecurity.

17 countries depended on Ukraine of their wheat imports in 2021. Countries with low incomes and food shortages are most dependent on Ukrainian grain. These are mainly countries in Africa and Western Asia (Rauschendorfer [2022](#)).

The food security of poor countries depends on the supply of grain to the world market. Ukraine produces much more grain than is needed for domestic consumption. This enables Ukraine to export grain (Table 3).

Ukraine's exports account for 9.1% of world wheat exports, and 9.7% for other grains. Ukrainian exports of wheat and other cereals account for 15.4% and 16.1% of European indicators, respectively. There is a link between conflicts and key inputs for agriculture. The impact of negative underlying factors on food security exacerbates the problems of malnutrition. Such factors include conflicts, worsening climatic conditions, and economic problems. They drive up food costs and widen consumption inequalities. This will continue until agriculture and food systems are more resilient and provide cheaper food and affordable healthy food for everyone in a sustainable and inclusive manner (FAO [2022](#)).

Table 3. Cereals imports and exports by main commodities, 2020 (thousand tonnes)

	Imports				Exports			
	MAIZE	WHEAT	Rice	Other	Maize	Wheat	Rice	Other
World	185238	192784	45275	47857	192891	198527	45 595	54 630
Europe	38565	35662	4876	14714	58491	117434	2441	32996
Ukraine	25	11	112	44	27953	18056	5	5303

Source: FAO. [2022](#)

Russia's invasion of Ukraine provoked an increase and decrease in supply on the food market. The GFSI indicator for 2022 indicates the negative impact of the war on the standard of living of the Ukrainian population. Prices in Ukraine have increased greatly for energy, fertilizers and raw materials since February 2022. This caused prices for basic food products to rise by up to 30%.

5 Conclusions

Ukraine is self-sufficient in all types of food products. Ukraine produces several times more than it consumes domestically, enabling it to occupy a leading position in the world of agricultural exports without compromising its food security.

However, according to the official report of the 2022 report, Ukraine still dropped to 24 positions in the Global Food Security Index - from 47th to 71th rankings. Poverty has become a major feature of population life.

Own production is the basis of food security. This ensures food self-sufficiency, meaning that the majority of domestic food consumption must be met through domestic food production. The food industry is becoming the core of food security. The task of the state is to provide the necessary food to the entire population, including the socially vulnerable.

Conflict can be a major cause of low food security. The 2022–2023 GFSI indicators show that the war has worsened global food security and Ukraine's food security. Conflict has negative impacts on the entire food system. The production of agricultural products and prepared foods is decreasing, costs in supply chains are increasing, and consumption is decreasing (GFSI [2022](#)).

The war has a negative impact on all key components of Ukraine's food security. The population in Ukraine has decreased. The war led to great casualties and caused migration processes. The military conflict led to the destruction of the Ukrainian market and industrial infrastructure. The territory of Ukraine is one of the most mined in the world. In 2022, grain harvests in Ukraine fell by 40%, vegetables by 25%, and fruits by 10%. In 2022, Ukraine lost more than 32 million tons of grain harvest, or 37.4% compared to 2021. This has certainly had a negative impact on global food security (FAO [2022](#)).

The food problem belongs to the category of global. To solve the food problem, the efforts of a single state are not enough, and a well-established cooperation of all countries,

regardless of their social and political orders, is required. Effectively addressing food security is the key to future generations prosperity.

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Impact of Happiness at Work, Work-Life Balance on Employee's Citizenship Behaviours

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Abstract. This research aimed to comprehend how happiness at work (HW) and work-life balance (WLB) impacted employee citizenship behaviours in the oil and gas sector of the United Arab Emirates (UAE). Using a self-administered questionnaire, data were gathered from employees of oil and gas companies in the UAE. Three hundred and fifty-five questionnaires were disseminated, of which 285 questionnaires were employed for statistical analysis. The findings signalled that happiness at work and work-life balance significantly predicted employee citizenship behaviours. The findings offer oil and gas policymakers insights into how HW and WLB can support employee citizenship behaviours. The study will aid in developing policies to promote an organisation's adoption of happiness at work and work-life balance practices by expanding knowledge about how these practices may contribute to efficient citizenship behaviours. This study is novel for two main reasons. First, this research adds to the HRM literature and organisational behaviour literature in general. Second, it adds to the scant literature concerning happiness at work practices in the oil and gas sector in general and in the context of the GCC region.

Keywords: Work life balance · Happiness at work · Oil & gas · Citizenship behavior · UAE

1 Introduction

Academics and professionals' attention has recently been drawn to the boundary between work and life. Several factors, including demographic shifts in the labour market, variations in the quantity and the employment rate, and an increase in the number of hours worked, have led to this interest [1]. When proper work-life balance exists, someone can lead a healthy, happy, and successful life. Indeed, achieving a work-life balance is now highly valued by people looking for a high life quality [2].

Many have explored the work-life balance concept. For most, work refers to the assortment of formal activities that an individual must complete when practising a particular job, and life involves various non-work responsibilities, such as child care and housework. According to [3], balance is reached when job and personal life function in harmony. Employee physical and mental well-being is crucial, and studies have shown

that they affect an organisation's success. For example, people who are happy in their jobs are more likely to be less stressed at work and home, which impacts their health and the company [4].

Despite academics' growing interest in this topic, research on happiness and work-life balance remain lacking. Early studies on life satisfaction or well-being focused on non-work groups like children, patients, teens, and/or students [5]. This deficiency suggests a knowledge gap that this study seeks to fill, particularly in terms of employee happiness and a focus on their families to improve their citizenship behaviour at work.

In this context, this paper seeks answers to these two questions:

Does happiness at work impact employee citizenship behaviours?

Does work-life balance impact employee citizenship behaviours?

The following sections provide the literature review, research methodology, results, discussion, future research directions and research limitations.

2 Literature Review

2.1 Happiness at Work

Academics are currently focused on the impacts of various factors on employee attitudes [6] and have grown more interested in workplace happiness [7]. Happiness, in general, is influenced by how people perceive and assess their entire lives. Understanding the role that employment and the workplace play is crucial, given that most people spend significant time at work. Recent studies have shown that work is important for happiness, which can influence the job market, productivity, and company performance [8]. The value of workplace life quality has been cited as a key factor in academic studies.

"Happiness at work" has been defined as satisfaction with pleasant working relationships, professional advancement, and the enjoyment of feeling appreciated and well-treated. Many concepts, such as engagement and well-being, are now regarded as types of happiness. According to [9], two key elements of a happy workplace are employee engagement and job satisfaction. In their study, [10] identified affective organisational commitment, engagement, and job satisfaction as the three key elements of HAW. The following is a discussion of these elements.

2.1.1 Employee Engagement

According to [11], engagement is the connection between an organisation's members and the work duties delegated to them. Engagement occurs when people express themselves verbally, physically, and cognitively while acting out their assigned tasks. Additionally, according to [12], "engagement" is a persistently satisfying affective-motivational state of performance. [13] emphasised work engagement as a satisfying, good, and job-related mental mode with three characteristics: absorption, dedication, and vigour. Previous research on employees' work engagement indicated that engaged workers are more likely to show favourable organisational outcomes like lower intention to leave, more customer satisfaction, and higher productivity and profit levels [14].

2.1.2 Job Satisfaction

The job satisfaction concept requires careful examination because it has connections to humanitarian and utilitarian viewpoints, which are priorities for all organisations when establishing their policies [15]. The utilitarian viewpoint asserts that employee satisfaction affects decisions that impact how the organisation runs [16]. In contrast, a humanitarian view asserts that employee satisfaction levels are related to how well they are treated fairly and appropriately within an organisation [17]. Additionally, Job satisfaction is seen as a quantifiable description of an emotion-associated reaction to a particular job, according to [18].

2.1.3 Affective Organisational Commitment

Per [19], affective organisational commitment includes an emotional attachment that employees have besides their identification with and engagement in their organisations and their objectives. It includes a bond created by employees within a company, and positive work-related behaviours (such as loyalty and dedication) have a strong correlation with affective organisational commitment [20]. Someone's relationship with an organisation, their convictions in the goals set forth by an organisation, and working toward those goals by being a part of that organisation are other ways to describe affective organisational commitment [19]. Per [21], affective organisational commitment is a force that motivates a person to act in relation to one or more goals.

3 Happiness at Work, Work-Life Balance and Organizational Citizenship Behavior

3.1 Happiness at Work and Organizational Citizenship Behavior

Theories like the attitudinal theory, the JD-R theory, or the social exchange theory have been used to analyse Organizational Citizenship Behavior (OCB) antecedents. According to social exchange theory, employee behaviour is a result of a social or economic exchange connection. Economic exchange in this context relates to the employment contract [22], whereas social exchanges take place when an employee and an organisation express respect for one another. Employee participation in OCBs increases with the quality of these relationships [23]. Per attitudinal theory, positive attitudes elicit positive behaviours. For instance, [24] discovered a positive correlation between job satisfaction (JS), emotions, and OCB, and [25] connected OCB with positive affect. However, not much study has been conducted on a comprehensive model of OCB. OCB and broad attitudinal dimensions like happiness at work (HAW) have rarely been linked to OCB so far.

Wider attitudes can more accurately predict broad behavioural conceptions, according to the compatibility principle [10]. Although earlier studies discovered a connection between positive attitudes like JS and OCB [23], these attitudes were sufficiently broad to predict behaviour in general. [23] created a structural equation model to demonstrate the relationships between job attitudes and OCB and specifically suggested that JS, organisational commitment, and procedural justice could be OCB antecedents. His findings

demonstrated procedural justice's vital role in that model. An integrated approach to its antecedents has been recommended in earlier research [10, 26]. Following this call, the current research contributes by considering a broader construct of HAW by examining its various sides and scopes.

In the context of this discussion, the first hypothesis is posited:

H1: Happiness at work (affective organisational commitment, employee engagement, and job satisfaction) will positively and significantly affect organisational citizenship behaviour.

3.2 Work-life Balance and Organisational Citizenship Behavior

Firms are increasingly obliged to foster good employee attitudes and behaviours to boost employee performance [27]. Consequently, organisations are employing various strategies, initiatives, and practices to increase employee commitment to and conscious involvement in organisational activities to attain goals and objectives. In this setting, OCB is regarded as the essential workplace behaviour of an individual that can improve organisational performance. According to most OCB studies, it is a constructive behaviour that supervisors should support and is crucial for an organisation's clients [28]. Members who feel that an organisation supports them are more apt to display OCBs, which is beneficial for the organisation as a whole [29]. As a result, companies concentrate on fostering OCBs among workers.

According to several researchers, improving an employee's work-life balance considerably helps to boost their overall job satisfaction [30]. [31] noted that OCB antecedents include employee attitudes, interpersonal trust, job satisfaction, mood, organisational commitment, role perceptions, and stress. Therefore, it is possible to improve the OCBs of employees by boosting good work attitudes among employees. Under this scenario, helping employees attain a good work-life balance is crucial for helping them display favourable work attitudes and behaviours [32]. Therefore, enhancing work-life balance helps to nurture employees' OCB by fostering a positive work climate and environment. Nevertheless, little research has previously investigated the association between OCB and work-life balance.

Based on the above discussion, the second hypothesis is posited:

H1: Work-life balance will positively and significantly impact organisational citizenship behaviour.

4 Research Methodology

A theoretical model is presented in this work based on a literature review. Employee citizenship behaviour is the dependent variable, while Work-life balance and Happiness at Work (affective organisational commitment, employee engagement, and job satisfaction) are the independent variables. This study's conceptual model is based on employee perspectives and views of work-life balance and happiness at work as they relate to their citizenship behaviour. The data were gathered quantitatively using surveys filled

out by employees of oil and gas companies in the UAE on December 14, 2022, and were returned by February 18, 2023. SPSS was used to examine the data. Correlation analysis and multiple regression analysis are included as statistical analyses. Multiple regression analysis addressed the study's hypotheses and determined which variable most influenced employee citizenship behaviour.

4.1 Measurement

The questionnaire used was divided into three sections. The first section covered demographic questions about a respondent's gender, educational background, job title, and years of experience. The second comprised items designed to measure independent variables dimensions, and the third included items that measured the dependent variables. Items were chosen from previous publications with minor changes made to the items chosen so that they were relevant to this study. The questions about happiness at work and dimensions (employee engagement, job satisfaction, and affective organisational commitment) were adapted from [33] and [34]. Work-life balance items were based on [35] and [36]. Items on organisational citizenship behaviour, the dependent variable in this study, were based on [37].

4.2 Population and Sample

Employees in oil and gas companies in the UAE constituted the population. A total of 355 employees, representing all corporate staff, were invited to take part in the survey, and 285 respondents returned complete questionnaires, representing an 80.3% return rate.

4.3 Respondents Demographic Profile

Table 1 presents the respondents' demographic profile.

4.4 Reliability Measures

Table 2 presents Cronbach's alpha for the scales; all values were higher than the 0.70-point minimum requirement (Nunnally, 1978). Thus, the reliability level was satisfactory.

4.5 Means, Standard Deviation and Correlation Analysis of the Variables

Table 3 shows the means, standard deviations, and correlations of the variables. The work-life balance of the employee had the highest mean ($M = 3.61$, $SD = 0.71$), followed by employee engagement ($M = 3.53$, $SD = 0.74$), affective organisational commitment ($M = 3.48$, $SD = 0.63$), and job satisfaction ($M = 3.24$, $SD = 0.65$). The organisational citizenship behaviour of the employee was rated highly by respondents ($M = 3.63$, $SD = 0.72$).

As predicted, work-life balance was positively correlated to OCB ($r = 0.554$, $P < 0.01$), employee engagement was positively correlated to OCB ($r = 0.621$, $P < 0.01$), job satisfaction was correlated positively to OCB ($r = 0.615$, $P < 0.01$), and affective organisational commitment was correlated positively to OCB ($r = 0.496$, $P < 0.01$). All inter-correlations were positive and significant.

Table 1. Respondent demographic data.

Category	Frequency	Percentage
Gender		
Male	190	66.7%
Female	95	33.3%
Education		
Bachelor's Degree	245	86%
Master's Degree	32	11.2%
PhD	8	2.8%
Experience		
Less than 5 years	112	39.3%
5 to 9 years	123	43.2%
10 to 14 years	36	12.6%
15 years and above	14	4.9%
Position		
Lower Management	237	83.2%
Middle Management	42	14.7%
Top Management	6	2.1%

Table 2. Cronbach's alpha of the scales.

Scale	Number of items	Cronbach's alpha
Work-life balance	8	0.814
Employee engagement	4	0.841
Job satisfaction	4	0.862
Affective organisational Commitment	4	0.851
Organisational citizenship behaviour	20	0.801

4.6 Multicollinearity

Table 4 highlights the VIF values for the independent variables. These values ranged between 1.069 and 1.544, and the tolerance values ranged from 0.701 to 0.821. The results suggest that no multicollinearity problem existed in the independent variable dimensions because all VIF values were lower than 10 and all tolerance values were higher than 0.10.

Table 3. Means, standard deviations, and correlations.

Variable	Mean	SD	Correlation Coefficients				
			WLB	EE	JS	AOC	OCB
Work-life balance	3.61	0.71	1				
Employee engagement	3.53	0.74	0.544**	1			
Job satisfaction	3.24	0.65	0.613**	0.611**	1		
Affective organisational Commitment	3.48	0.63	0.562**	0.605**	0.562**	1	
Organisational citizenship behavior	3.63	0.72	0.554**	0.621**	0.615**	0.496**	1

Note: Correlation was significant at the 0.01 level (2-tailed). WLB = Work-life balance, EE = Employee engagement, JS = Job satisfaction, AOC = Affective organizational commitment, and OCB = Organisational citizenship behavior

Table 4. The VIF and tolerance values for the independent variables.

Variable	Tolerance	VIF
Work-life balance	0.711	1.352
Employee engagement	0.752	1.233
Job satisfaction	0.701	1.544
Affective organisational Commitment	0.821	1.069

4.7 Hypotheses Testing Results

This study's main focus was on the relationship between Happiness at Work (employee engagement, job satisfaction, and emotional and organisational commitment) and Work-Life Balance on organisational citizenship behaviour in the oil and gas sector). Multiple regression was used to assess the hypotheses posited.

H1: Happiness at work (affective organisational commitment, employee engagement, and job satisfaction) will positively and significantly impact organisational citizenship behaviour.

Table 5 shows the positive relationship between organisational citizenship behaviour and happiness at work in UAE oil and gas organisations ($r = 0.442$). Table 5 also displays the R^2 value, which represents the percentage of variation in organisational citizenship behaviour that the three factors of happiness at work explain. This number indicates that the variables related to happiness at work account for 41.1% of the variability in organisational citizenship behaviour. The data's F-value was 41.33, indicating significance at

Table 5. Multiple regression of the first hypothesis.

Variables	R	R ²	F-value	Sig(f)	B	T	Sig(t)
Employee engagement	0.442	0.411	41.33	0.000a	0.212	4.33	0.000
Job satisfaction					0.125	2.73	0.000
Affective organisational commitment					0.413	5.44	0.000

$p < 0.05$ (sig = 0.000). Thus, the relationship between the variable of "happiness at work" and organisational citizenship behaviour was significant. Therefore, the hypothesis was accepted. Specifically, employee engagement had a (t) value of (4.33) with a significance level of (0.000), job satisfaction had a (t) value of (2.73) with a level of (0.000), and affective organisational commitment had a (t) value of (5.44) with a level of (0.000). The β value for the three variables were 0.212, 0.125, and 0.413, respectively. Affective organisational commitment was thus the best predictor of organisational citizenship behaviour. Thus, employee affective organisational commitment, engagement, and satisfaction influenced organisational citizenship. In particular, this variable's R² value of 0.411 indicates that the three variables of happiness at work explained 41.1% of the variation in organisational citizenship behaviour.

H2: Work-life balance will positively and significantly impact organisational citizenship behaviour.

Table 6. Multiple regression of the second hypothesis.

Variables	R	R ²	F-value	Sig(f)	B	T	Sig(t)
Work-life balance	0.553	0.494	42.22	0.000a	0.374	2.553	0.000

Work-life balance's impact on corporate citizenship behaviour was significant, as shown in Table 6. The calculated F in this instance was (42,22), at level (sig F = 0.000). Additionally, (R = 0.553) indicates a positive correlation between the variables, while (R² = 0.494) suggests that a change in work-life balance can account for 49.4% of the change toward organisational citizenship behaviour.

5 Discussion

UAE oil and gas sector employees were surveyed regarding the effects of work-life balance and HAW on OCB. The results show that work-life balance strongly influenced employee citizenship. The results also showed that job satisfaction, employee engagement, and affective organisational commitment—the three characteristics of happiness at work—positively affected employee citizenship behaviour.

Practitioners and academics in the oil and gas sector can benefit greatly from the study's findings. The most productive employees are those who can find a healthy balance between their job and family responsibilities. Organisations that provide their employees with sufficient possibilities to balance their work and family responsibilities will consequently benefit from their employees' higher levels of organisational citizenship behaviour. Maintaining a healthy work-life balance helps employees do their assigned responsibilities more effectively and efficiently. Affective organisational commitment had the biggest influence on organisational citizenship behaviour. Therefore, the argument can be made that employees in the oil and gas sector fully understand the value of committing to their company.

6 Implications

Besides adding to theoretical development, this research can benefit management in the oil and gas industries in creating and implementing techniques for developing staff citizenship behaviour. The managerial implications of this study lead to several recommendations for managers at companies, particularly those in the UAE oil and gas industries, to consider for promoting work-life balance and employee happiness, which will subsequently boost citizenship behaviour and performance. Hence, factors related to life quality that are known to affect employees' attitudes and behaviours should receive more focus. These elements include affective organisational commitment, job satisfaction, and employee engagement, for example, offering flexible scheduling that allows for various start and finish times. In this way, workers could choose what was best for their family circumstances. In addition, it is possible to satisfactorily address additional difficulties, such as childcare, maternity leave, parental care, and spouse care. Managers must attend to employee demands as this will afterwards improve employee engagement and organisational commitment, which will ultimately increase organisational citizenship behaviour and positive attitudes toward their company.

7 Limitations

Despite the strength and significance of the findings, several limitations must be explicitly acknowledged. First, even though the variables chosen for the framework were acceptable for research on organisational citizenship behaviour in organisations, other factors can add to this framework. Second, the framework must be modified to accommodate other organisations and sectors, which could improve the findings' generalizability and impact the outcomes. Third, this research's data collection phase occurred at one point.

8 Future Research Directions

This paper may be expanded to cover additional HAW and work-life balance practices and empirically explore how these practices can support one another under various circumstances. It is essential to recognise the need to examine HAW activities in terms of their various dimensions, whether at the individual or organisational level. The study

could also be improved by utilising respondents from various industries and firm sizes, longitudinal data to show causal links between independent and dependent variables, or multiple cases to explore the influence of happiness at work and work-life balance on organisational citizenship behaviour.

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Ponzi Schemes in the FinTech World: Emerging Threat for the Economic Globalization

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Abstract. The paper provides overview of the financial technologies (FinTech) sector and addresses some legal vulnerabilities of this emerging segment of the global economy. Complicated nature of the FinTech sector is explained – from mobile payment applications to complex blockchain networks containing encrypted transactions. Aside from numerous advantages of the FinTech services, issues related to fraudulent practices in this sector of economy are discussed at length. In particular, it is argued, with reference to the two major Ponzi schemes of the past, that financial pyramids are types of illegal enterprises, which can infiltrate legitimate financial technology industries. Through the lenses of the relevant Ukrainian law and practice, the complicated nature of illegal financial pyramids, in particular the absence of meaningful definition of this type of fraud, proposals are elaborated on how to improve national financial market regulation. Based on research findings, the key idea of the research is formulated: in some cases there is a potential link between modern financial technologies and fraudulent schemes related to financial pyramids. Such disturbing realities should trigger more aggressive legal response by national lawmakers and regulators.

Keywords: FinTech · ponzi scheme · fraud · economy · cryptocurrency · crime · globalization

1 Formulation of the Research Problem

The modern phenomenon of economic globalization directly affects development of law in world jurisdictions and, in particular, the model of combating white-collar crime. Because of important changes in economic, social, political and other spheres in different

countries, the definition of new forms of legal regulation of such trends is required more than ever before. Globalization of crime against the background of economic globalization requires strengthening international cooperation and developing ways to solve a number of issues related to combating criminal behavior far beyond the scope of national criminal law systems [1]. This argument applies to the FinTech industry in full.

Nowadays, the financial technologies (or FinTech) sector is actively changing the whole financial services industry by offering innovative solutions for corporate and individual clients. Here are just a few of the key FinTech innovations: 1) mobile banking and payment applications – allow customers to access financial services from their smartphones, significantly facilitating financial management; 2) digital wallets (such as Apple Pay and Google Wallet) – allow customers to store payment information and make transactions without using plastic cards; 3) P2P lending – peer-to-peer lending platforms connect borrowers with investors, while bypassing traditional banking and financial institutions; 4) robo-consultants – use artificial intelligence technologies in the course of personalized investment consulting and provision of credit portfolio management services; 5) Blockchain technology – provides safe and transparent transactions and has the potential to fundamentally change traditional financial sector; 6) “open banking” – refers to the practice of exchanging financial data with third-party providers to offer new types of financial services and products; 6) “InsurTech” – means the use of technologies in the insurance industry, providing clients with more effective and innovative solutions; 7) technologies for detecting fraudulent practices based on artificial intelligence – aimed at detecting and preventing fraud in the field of financial services by analyzing, with the use of artificial intelligence, algorithms in financial transactions and detecting any suspicious activity [2]. These are just a few examples of FinTech innovations which are increasingly transforming the financial services industry, thus making it more convenient and accessible.

At the same time, it is important for the financial ecosystem, which involves many interested stakeholders, including authorities, to make continuous efforts to create a climate of regulatory compliance and transparency, with effective tools of protection against fraud. Against the background of further digital transformation of financial institutions, markets and agency transactions, it is necessary for the concept of fraud risk management to transform into an integral part of the overall architecture of the financial system and financial security [3].

This research paper will start with the overview of the FinTech sector. It will then proceed with brief history and current forms of the illegal “financial pyramid” phenomenon and finally will address some pressing issues related to the prosecution of Ponzi schemes related to blockchain technology and cryptocurrency market.

2 Literature Review and Methodology

To this date, a lot has been written both on the FinTech sector and on Ponzi schemes, including criminal law literature.

Among the authors who recently researched financial technology and related blockchain technologies, are: S. Srivastava [4], G. Patra and R. K. Roy [5], J. Griffin [6], S. Walden [7] and some others. In turn, the elements and prosecution of Ponzi schemes

and other white collar crimes in the globalized environment have been researched, in particular, by R. Movchan and O. Dudorov [8], Y. Lutesnko [9], O. Tsaruk [10].

However, the “intersection” between FinTech and financial pyramids has been covered by scholars only in a fragmentary manner and the literature on the issues of Ponzi schemes in the FinTech world is rather scarce. Thus, our paper is aimed at partially closing such gap in the published scholarship.

The following research methods have been employed by the authors: systemic analysis – to determine the underlying generic features of the use of FinTech resources for illegal purposes in general and for consumer fraud schemes in particular; comparison – to compare current model of criminal prosecution for FinTech violations, financial fraud and Ponzi schemes in various jurisdictions; synthesis – to identify real means and ways of implementing FinTech principles and regulations as well as using national legal frameworks to counter cryptocurrency-related Ponzi schemes; generalization – to formulate adequate conclusions based on the research results achieved.

3 Discussion and Results

Our analysis will be based on determining the nature of relationship between the two fundamental concepts: “FinTech” (a relatively new term, as well as the financial phenomenon which it describes) and “financial pyramid” (or Ponzi scheme – a familiar concept in legal circles that covers more than a century-old history of certain financial fraud schemes and their exposure). We will start with the definitions.

3.1 FinTech: Definition, Advantages and Vulnerabilities

As a matter of fact, defining FinTech (Financial Technology) in just a few words (or even sentences) is an extremely difficult task, since this concept covers various sectors of the economy and has more than one functional feature.

FinTech is a general term, which refers to software, mobile applications, and other technologies created to improve and automate traditional forms of financing for both companies and private consumers. As mentioned above, FinTech is an all-inclusive concept – from simple mobile payment applications to complex blockchain networks containing encrypted transactions [11].

Companies are increasingly relying on a variety of FinTech products to process payments, e-commerce transactions, accounting, and even government programs such as the Paycheck Protection Program (PPP) in the United States. The PPP, a massive federal business relief program linked to the COVID-19 pandemic, provided for fast distribution of more than \$793 billion in funds in three short rounds from April 2020 to May 2021. Although corporate FinTech lenders started slowly with less than 5% portfolio of loans in the first round, their share has increased to more than 80% of loans issued as of May 2021, underscoring their growing importance. FinTech lending has been widely recognized for the increased access to PPP loans, especially for small businesses without established lending relationships with traditional banks, and for facilitating fast and efficient lending when many small businesses needed funds due to the COVID-19 pandemic. At the same time, some experts suggest that the rapid expansion of FinTech lending could have

occurred due to violations of lending standards and even the use of some fraudulent practices. While traditional banks have built relationships with borrowers and extensive regulatory compliance programs, many FinTech lenders, by contrast, have not had such built-in relationships and may have been less thorough when establishing formal lending algorithms. Also, they did not have business reputation and trust enjoyed by large conventional banks [6].

The following chart provides some insight into the FinTech industry when compared to the traditional banking sector (see Fig. 1).

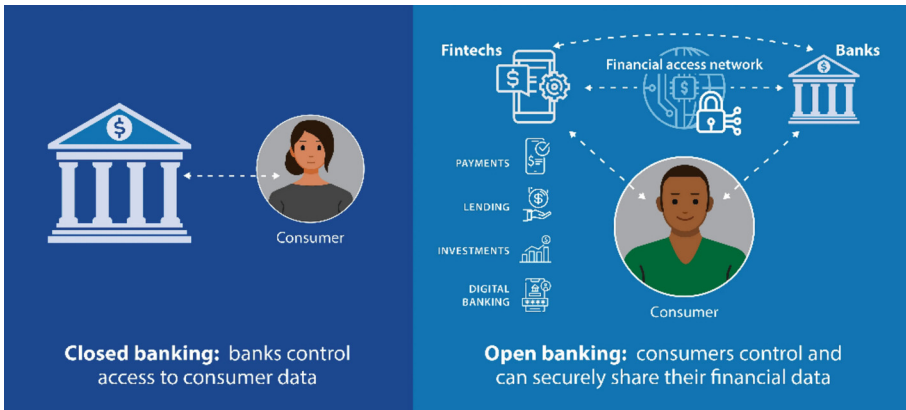


Fig. 1. Fintech Explained: Open banking drives consumer benefits and choice [11].

Just like any financial product (especially a new one) and the banking industry in general, FinTech is not immune to illegal practices, including various fraudulent schemes. This is the reality, especially in the world of business and big finance: at the current stage, interaction with FinTech companies largely remains an unregulated activity, especially in the field of cryptocurrencies and blockchain technologies – those remain in the “Wild West” phase [7]. This, in turn, can lead to unwanted or unexpected threats, including criminal ones.

Realities of the financial world are such that hundreds of FinTech companies operate worldwide in parallel with traditional banking and financial institutions, without complying, unlike the latter, with strict regulatory oversight and reporting requirements [12]. It is obvious that in the absence of clear regulatory regimes which would clearly regulate key aspects of the FinTech industry, the number of illegal abuses will remain high. By the way, the situation with financial pyramids in Ukraine is similar – as a result of significant gaps in the normative regulation of the procedure for attracting citizens’ financial funds, “pyramidal schemes” have been and will be created in future, thus causing the indignation of defrauded citizens and at the same time creating noticeable difficulties for both law enforcement agencies and courts.

3.2 Ponzi Schemes and the Complicated World of Digital Finance

Financial pyramids have become a certain marker in the American and world record of combating economic crimes as manifestations of large-scale fraud schemes on capital markets. Subsequently, they had been labeled “Ponzi schemes” after the infamous businessman Charles Ponzi, who had been the pioneer in creating this type of investment fraud on a large scale back in 1920. The essence of the fraudulent Ponzi scheme was to make a profit at the expense of the difference in the value of postage stamps in international circulation. Ponzi promised investors 50% profit within 45 days and 100% profit within 90 days. More than 40,000 depositors had become Ponzi investors. Most of them lost their investment contributions when the Ponzi scheme was exposed in July of 1920. Ponzi was imprisoned for 3 years with property confiscation for the biggest fraud in the country’s history at the time [13].

The illegal activity of the New York financier Bernard Madoff during the modern era of the US stock market tells us that history often repeats itself while not always teaching how to avoid mistakes of the past. This investment banker implemented the largest financial pyramid in the history of the United States to date. The company stayed in business for more than two decades and resulted in losses to investors in the staggering amount of over \$60 billion. After the drop in the share price in November 2008, many investors rushed to withdraw money from their accounts in the amount of more than \$7 billion dollars, but Madoff’s company could not fulfill its financial obligations due to objective reasons. Investors trusted Madoff because he had created atmosphere of trustworthiness and respectability, his returns were high but not excessive, and he claimed to be using a legitimate strategy. In 2009, Madoff was sentenced to 150 years in prison and ordered to pay \$170 billion in restitution [14].

The fact that pyramid structures often conduct their activities behind the facade of legal structures – investment companies, trust companies, credit unions, etc., makes it much more difficult to legally assess actions of their organizers and functionaries as unfair business practices.

3.3 Fighting Ponzi Schemes by Means of Criminal Law: the Case of Ukraine

It is true that every country tries to solve the issue of protecting financial system from fraudulent abuses in its own sovereign way. This is also true when protecting citizens and businesses from schemes for fraudulently soliciting funds under the guise of alleged investments. In the past, several draft laws have been developed in Ukraine, dedicated to the definition of the key term “financial pyramid” and the introduction of criminal liability regime for the creation of such fraudulent financial entities.

For example, according to the draft law of Ukraine “On the Prohibition of Financial Pyramids in Ukraine”, a financial pyramid should have been recognized as any transaction with financial assets carried out by individuals or legal entities for the purpose of acquiring or the possibility of acquiring benefits for themselves or other persons due to the redistribution of assets owned by other persons, in particular without conducting real economic activity [15].

Parliamentary experts have expressed some concerns over the proposed criminal law provision. In particular, the ambiguity of the wording “creating conditions for a

financial pyramid” was pointed out. Hence, operations of any bank can be regarded as creating conditions for the potential financial pyramid, which is wrong. Doubts were also expressed as to: 1) whether such act as “offering participation in a financial pyramid” has such a high degree of public danger that makes it sufficient to be recognized as a crime; 2) whether it is appropriate to criminalize “acquiring financial assets with the help of a financial pyramid”, since depositors not only solicit, but also actually receive funds from financial pyramids [16].

In the end, after several (during 2011–2014) unsuccessful attempts by the parliamentarians to create a regulatory basis for officially establishing a comprehensive normative framework of a financial pyramid and grounds for liability for crimes related to their creation, this issue remains unresolved in Ukraine.

Also, we would like to refer to the case of using virtual assets in the course of operations by the financial pyramid in Ukraine. Having received a new name (“MMM-2011”) in 2011, the most infamous financial pyramid in Ukraine offered its depositors to purchase virtual currency MAVRO and to put it on deposit accounts; the exchange rate for buying and selling currency was published on the system’s website and changed every Tuesday and Thursday. Sale and marketing of this currency was carried out by specially trained representatives of the pyramid.

In terms of its economic essence, MAVRO currency was not much different from the type of virtual money common at the time – WebMoney. Of course, each of the MMM-2011 investors were aware of the fact that they were voluntarily participating in a gambling scheme, where winnings are not guaranteed [10].

Some researchers might pose a question about what should the criminal law assessment of the activities of persons who organized certain pyramidal ventures be like, provided that the latter received licenses for the provision of financial services in accordance with the procedure established by the law. In such cases, we obviously have to admit the “powerlessness” of a potential criminal statute on liability for violation of the procedure for providing financial services. In turn, we can raise the following question: when there is a legal decision of a competent body, would a special criminal statute on the organization of a financial pyramid be helpful?

At the same time, it is quite obvious that the adoption of changes, even carefully thought-out ones, solely to the criminal law cannot lead to the cessation of the activity of financial pyramids in Ukraine. Strategic directions in the development of regulation of financial services markets should be based on the simplification of reporting, informing, supervision and monitoring procedures in the field of financial services markets, thus ensuring their transparency, the maximum possible delegation of powers from bodies of general competence to a specially authorized subject of regulation of financial services markets, etc. [17].

3.4 Prosecution of FinTech Ponzi Schemes in the United States: Enforcing Compliance Climate

In a comparative legal context, it is worth noting that in the United States of America, where, as mentioned above, the activity of financial pyramids was first recorded, § 1348 of the U.S. Federal Criminal Code “Fraud with securities and goods” is the legal basis for the criminal prosecution of “pyramid” schemes. In particular, part (2) of this provision

makes it a crime to receive any money by means of false or fraudulent pretenses, statements or promises in connection with transactions in goods or securities. Accordingly, fraudulently attracting investments (funds) in a “pyramid” under the guise of raising capital for future financial deals or business projects is recognized by court practice as securities fraud in the broadest sense of the term.

As one may see, American legislator perceives such schemes primarily as a manifestation of fraud (veiled deception), albeit a complex one, related to the provision of financial services, investment solicitation and the promise of high profits – essentially (and known to the fraudster) “out of air”.

A relatively new direction in the use of financial pyramids is the attraction of investors’ funds for various projects related to the use of cryptocurrencies. In general terms, a cryptocurrency is a digital or virtual currency protected by cryptography, which makes it practically impossible to forge. Most cryptocurrencies exist on decentralized networks which use blockchain technology – a distributed system supported by a disparate network of computers. A defining feature of cryptocurrencies is that they are not issued by any central authority. This makes them immune, at least in theory, to any type of government intervention or manipulation [18].

Since creation of the most famous and widely circulated cryptocurrency, bitcoin, in 2009, the cryptocurrency market has grown exponentially. Thus, in 2021, the total volume of transactions increased to \$15.8 trillion, which is 567% more compared to 2020. At the same time, fraudulent schemes on the crypto-market have “developed” just as quickly. By the way, while in 2018 the amount of fraud related to cryptocurrency was about \$1.7 billion, in 2019 fraudsters “extorted” cryptocurrency worth of more than \$4.3 billion from their victims. Most of such criminal income (about \$3.2 billion) was obtained precisely from the activities of financial pyramids, which accounted for 92% of the total amount [19].

The following diagram visualizes relevant statistics (Fig. 2).

To date, the Plus Token scam remains one of the largest “pyramid” schemes based on digital assets. The China-based company “Plus Token” had been essentially a cryptocurrency wallet that offered investors cash rewards of up to 30% of their contributions, if they purchased the company’s own token (i.e. a separate cryptocurrency) of the “PLUS” wallet for Bitcoin or Ethereum. Such false promises have brought fraudsters over \$2 billion worth of “investments” in cryptocurrency from more than 3 million customers. The “scam” had been eventually exposed when the wallet suddenly stopped providing withdrawal services. After several complaints, the Chinese authorities had launched an investigation and found that “Plus Token” was yet another financial pyramid scheme [20].

Interestingly enough, back in 2013, the US Securities and Exchange Commission (the federal stock market regulator) expressed serious concern about the potential danger of using virtual currencies, primarily bitcoin, in fraudulent schemes based on attracting investors’ funds. Fraud may involve unregulated offering or use of virtual trading platforms. The “authors” of financial pyramid schemes and other fraudulent schemes are particularly attracted to virtual currencies, since transactions in virtual currencies supposedly have greater privacy benefits and less regulatory oversight than transactions

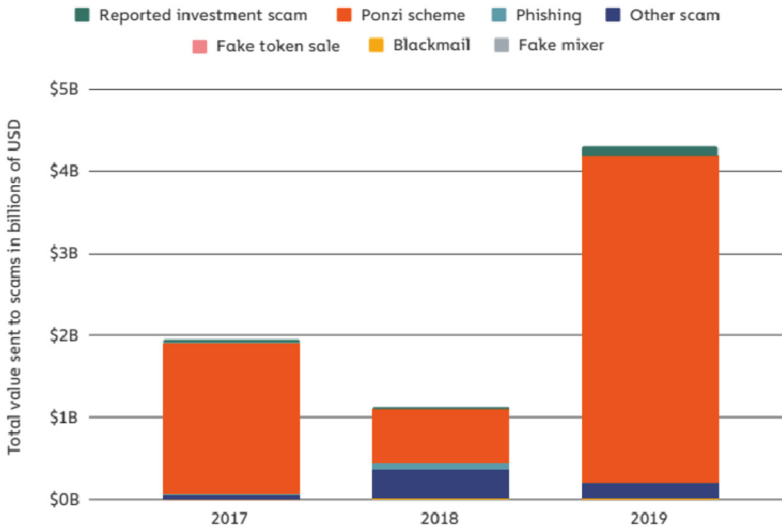


Fig. 2. Yearly total funds paid to scams by type of scam, 2017–2019 [19].

in fiat currencies, such as dollar or euro. The federal regulator reminded that any investment in securities in the United States remains under the US Securities and Exchange Commission jurisdiction, regardless of whether the investment was made in dollars or any virtual currency [21].

3.5 FTX’s Investor Fraud: Vulnerabilities of Cryptocurrency Business

The above-mentioned criminal case against Bernard Madoff, related to the activities of the world’s largest financial pyramid, prompts to draw parallels with another large-scale financial swindle related to the use of virtual assets – the activities of the American FinTech entrepreneur Sam Bankman-Fried and “FTX Trading Ltd.” – the cryptocurrency exchange controlled by him (“FTX”).

According to law enforcement authorities, from the start, Bankman-Fried illegally directed client assets from the crypto-platform “FTX” to the private crypto-hedge fund he created, “Alameda Research LLC” (“Alameda”), and later used client funds to make unknown venture investments, acquisition of luxury real estate as well as donations to campaign companies and other major political events in the USA. When crypto-asset prices plummeted in May 2022, Alameda’s creditors demanded repayment of several billion dollars in loans. Despite the fact that by this point Alameda had already owned billions of dollars in FTX customers’ assets, it was unable to meet its loan obligations. Bankman-Fried directed that FTX divert several billion dollars more of its loan assets to Alameda’s customers in order to ensure that Alameda fulfilled its loan obligations and that funds would continue to flow to the company from creditors and others investors.

Subsequently, when it became clear that such concealed interaction between Alameda and FTX could not satisfy demands of creditors and, as such, save his crypto-business, Sam Bankman-Fried continued to embezzle funds from the FTX customers.

During the summer of 2022, he directed several hundred million dollars of funds belonging to the “FTX” customers to the “Alameda” hedge fund, which he used for additional venture investments as well as “loans” to himself and other FTX managers. Thus, he continued to make misleading statements to investors about the FTX’s financial state and risk management.

In November 2022, after receiving demands from customers to repay loans that FTX could not fulfill, Bankman-Fried once again misled investors, whose money he needed for closing a multibillion-dollar hole. His multi-year fraud scheme finally ended when FTX, Alameda and their tangled web of affiliates filed for bankruptcy on November 11, 2022 [22].

Although direct analogies between Bernie Madoff’s financial pyramid and the fraud scheme by Sam Bankman-Fried are difficult to draw, at least certain elements of a pyramidal scheme are present in the latter case. In particular, this can be seen in the payments by the hedge fund “Alameda” to borrowers while illegally using financial resources received from the creditors of another company controlled by the accused – “FTX”. Therefore, those analysts are correct who suggest taking a closer look at the long-term scheme of Bankman-Fried and determining where exactly and for what purposes contributions of defrauded investors had been directed [23].

4 Conclusions

Based on learning relevant American, Ukrainian and other foreign experience we can formulate the key thesis of our analyses: there is a direct connection between modern financial technologies and financial pyramids that are potentially dangerous for consumers. This, in turn, should encourage national regulators and law enforcement agencies to thoroughly analyze specifics of the establishment and operation of such “virtual” financial ventures in order to create effective tools to counter them.

Today it becomes obvious that merely making changes to the criminal law cannot lead to the cessation of the activity of financial pyramids in any state. Solving this pressing issue requires national authorities to undertake certain other (noncriminal) measures, including regulatory framework, various preventive measures, educational programs and international law enforcement cooperation.

Here is the bottom line: criminals must be denied any opportunity to transform the FinTech sector into a “best choice” platform for financial pyramid schemes or any other type of financial fraud.

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Borobudur Without Borobudur: An Alternative Tourism Development Based on Tourist Perspective

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Abstract. This research is aimed to analyze the alternative of tourism destination development in Borobudur area based on tourist perspective. The result of this research can be the suggestion for the authorities to develop new attractions in Borobudur to support tourism development after the limitation to go up to the temple. This alternative hopefully can help to spread the crowd in Borobudur area to keep the sustainability of the temple. This is quantitative research with conjoint analysis as its methods. The data was collected by spreading questionnaires to 106 respondents. The questionnaire contains 24 product combinations of accessibility, amenities, accommodations, activities, and ancillary services. The result shows that the most important attribute for respondents is activities. The result also shows that the most preferred combination for the respondents is the combination of using private vehicle, eating local food, staying in a star hotel, doing adventure activity around Menoreh Mountain and without any tour guides.

Keywords: Borobudur · conjoint analysis · sustainability · tourism

1 Introduction

Borobudur has been assigned as one of 5 top super priority destinations in Indonesia [1]. In international level, Borobudur has been assigned as UNESCO world heritage since 1991 due to its position as the world's largest Buddhist monument and priceless ancient center for pilgrimage and education in Mahayana Buddhism [2]. This wonderful Buddhism Temple has been a main attraction to both international and domestic tourists, especially by going up to the top of Borobudur to enjoy the best view of that location. However, during the pandemic, a restriction for tourists to go up to the temple was released due to the pandemic to prevent the spread of the Covid 19 virus.

Furthermore, when the restriction has been loosened, tourists are still not allowed to go up to the temple as stated by the national Government [3] to maintain the sustainability of the temple. Based on the research, the tourist number in Borobudur has reached the

acceptable limit which is able to cause the structure friction of the temple. To maintain this international heritage site, the number of visitors especially those who go up to the temple needs to be controlled through formal regulations. Before the holiday season of Eid Fitr in 2023, the authorities did a trial to let tourist going up to the temple, with the capacities of 1200 people per day or 150 people per hour. The tourist who wants to go up to Borobudur needs to pay an additional amount of money for tour guides and a sandal with specific materials.

The magnet of Borobudur will always be the temple itself. However, this industry needs to make innovations in order to keep this area a popular destination. Borobudur is located in a subdistrict and village with the same name. Borobudur district itself has 20 villages with various attractions. This research is aimed to analyze the alternative of tourism destination development in Borobudur area based on tourist perspective. The tourists are domestic tourists coming to Borobudur along the restriction of going up to the temple, hence they have experienced the Borobudur (the area) without Borobudur (go up to the temple) moment.

This research hopefully can give appropriate suggestions to develop new tourism products in Borobudur to support the development of the area. This alternative is adapted based on the theory of tourism elements which consist of Accessibility, Amenities, Accommodations, Activities, and Ancillary services. Those elements are called attributes in this research. Each attribute has options called level which will be customized to the characteristic of Borobudur. The respondents of this research will choose the combination of level in each attribute which will show the best alternative based on tourist perspective. The answer of this study will be following the structure of the paper containing introduction, literature review, research method, result and discussion, and conclusion and further study. Hopefully, this research will be beneficial for the tourism industry to develop new alternative tourism in order to spread the impact to another area around Borobudur, as well as controlling the number of people going up to the temple to keep its sustainability.

2 Literature Review

This research will use attributes based on the tourism element which consist of accessibility, amenities, accommodation, activities, and ancillary service.

a. **Accessibility**

Accessibility refers to the facility and infrastructure that is needed to reach a tourist destination from the tourist origin area. Accessibility is related to transportation which is a key element of a destination's existence.

b. **Amenities**

Amenities refer to supporting facilities to fulfill the needs of tourists in a tourist destination [4]. Amenities comprise accommodation, food and beverage services, entertainment, retailing area, and another services. Different destinations can have different amenities based on the characteristics of the destination itself, as long as aiming to fulfill tourists' needs [5].

c. **Accommodation**

Accommodation refers to a place to stay in a tourist destination. Accommodation can be varied based on the characteristics of the destination. In the city center area, the accommodation is mostly a kind of hotel, while in the village area, it is dominated by homestay.

d. **Activities**

Activities refers to all tourism activity which gives experiences in a tourism destination. Tourist activities are developed based on the characteristics which will be the attraction of the destination.

e. **Ancillary Services**

Ancillary services refer to the facilities and secondary services which are important to the success of the tourism business. These services make tourist experience more comfortable and enjoyable.

3 Methodology

This research uses a quantitative approach with conjoint analysis as its methods. Conjoint analysis technique helps to determine the relative importance based on customer perceptions brought by a particular product and the utility value that arises from related product attributes [6]. Through this analysis, consumers can express their preferences through the assessment of objects that have been formed by a combination of attributes. The data of this research comes from primary data of questionnaire given to the domestic tourists who visits Borobudur without going up to the temple. The questionnaire is divided into two sections, the first one is related to the tourist's characteristic, while the second one consists of 24 combinations of tourism products generated by orthogonal design by SPSS.

Table 1 below shows the attributes of the research with options/ levels which suitable to the condition of Borobudur.

The first step of the analysis is making the stimulus or the combination of level of attributes through orthogonal design. Table 2 shows 24 stimuluses produced from the attributes above.

The second step is giving the questionnaire to the respondent. The respondent will give score for each combination based on Likert scale, 1 for 'very dislike' to 5 for 'very like'. The respondents of this research are the domestic tourists who visit Borobudur without doing up to Borobudur. Since the population is unknown, the sample of this research can be counted based on Lemeshow formula [7].

$$n = \frac{Za^2xPxQ}{L^2}$$

Description:

n = sample needed.

Z = Standard of distribution with = 5% = 1,96.

P = Prevalence of Outcome, 50% for unknown population.

Q = 1 - P L = level of accuracy, 10%

$$n = \frac{(1,96)^2 \times 0,5 \times 0,5}{(0,1)^2} = 96,04$$

Table 1. Attributes and level

Attributes	Level
Accessibility	<ul style="list-style-type: none"> • Private vehicle (private vehicle) • Rental car/ motor (rental vehicle)
Amenities	<ul style="list-style-type: none"> • Eat in a restaurant (restaurant) • Eat in a local food (local food)
Accommodation	<ul style="list-style-type: none"> • Stay in local people homestay (local people homestay) • Stay in non-star hotel (non-star hotel) • Stay in star-hotel (star-hotel)
Activities	<ul style="list-style-type: none"> • Doing adventure activity around Menoreh Mountain (adventure jeep, hiking/ tracking, outbound) (adventure) • Doing traditional cultural tourism (sedekah bumi (traditional ceremony), culinary workshop, etc.) (traditional culture) • Doing traditional art tourism (gamelan, carving, dance, batik, etc.) (traditional art) • Enjoying natural scenery (bicycling around the rice field, enjoying the sunrise, enjoying the temple view from the height) (enjoying the nature) • Learning about cultural education of Borobudur (educational history)
Ancillary	<ul style="list-style-type: none"> • With tour guides (tour guides) • Without tour guides (no tour guides)

Table 2. Stimulus produced by orthogonal design

No	1	2	3	4	5
1	Rental	restaurant	star hotel	art	tour guides
2	Private	restaurant	non star hotel	enjoying the nature	tour guides
3	Private	local food	homestay	traditional culture	tour guides
4	Rental	local food	non star hotel	art	tour guides
5	Rental	local food	star hotel	enjoying the nature	No tour guides
6	Private	local food	non star hotel	art	No tour guides
7	Rental	local food	homestay	enjoying the nature	tour guides
8	Private	restaurant	homestay	art	tour guides
9	Private	restaurant	star hotel	educational history	tour guides
10	Private	restaurant	non star hotel	educational history	No tour guides
11	Private	restaurant	homestay	art	No tour guides
12	Private	local food	homestay	traditional culture	No tour guides
13	Private	restaurant	star hotel	traditional culture	tour guides

(continued)

Table 2. (continued)

No	1	2	3	4	5
14	Rental	restaurant	homestay	adventure	tour guides
15	Private	restaurant	homestay	enjoying the nature	No tour guides
16	Rental	local food	homestay	educational history	tour guides
17	Rental	restaurant	non star hotel	traditional culture	No tour guides
18	Private	local food	non star hotel	educational history	tour guides
19	Rental	restaurant	non star hotel	traditional culture	tour guides
20	Private	restaurant	homestay	adventure	tour guides
21	Private	local food	non star hotel	adventure	tour guides
22	Rental	restaurant	non star hotel	adventure	No tour guides
23	Rental	restaurant	homestay	educational history	No tour guides
24	Private	local food	star hotel	adventure	No tour guides

Based on the formula, the minimum sample of this research is 96 respondents. Then, the next step after fulfilling the questionnaire is doing the conjoint analysis through SPSS software.

4 Result and Discussion

As stated in the previous chapter, the questionnaire will be divided into two sections, which are the characteristic or the profile of the respondent and the score of attribute's combination. Table 3 shows the profile of the respondent based on 106 valid questionnaires.

The result of the conjoint analysis will show each of respondent's preferences for each attribute. The result shows the importance value and the correlations value for each respondent as well. However, in this paper, we will only discuss the overall statistics to show the complete result of the research.

The first table of the overall statistical result shows us the utilities table that shows the utility estimates score and standard error for each level, as shown in Table 4. The higher utility value indicates a greater preference of respondents [8]. Based on the result, people tend to choose private vehicles rather than rental ones for transportation during their visits to Borobudur. For the amenities, people prefer to eat local food (warung). This response supports the characteristics of Borobudur area which is known for its tradition and culture. While for the accommodation attributes, the respondents choose Star Hotel for their stay. People may choose to stay in a hotel for its facilities and comfort. However, the result is a little bit contradictive to Borobudur's characteristic with its homestay development. The development of homestay in Borobudur considered makes Borobudur increasingly attractive due to the culture obtained from tourists and the culture from homestay, which is the original culture of the local people by adding various

Table 3. Profiles of the respondent

Profile of the Respondent	Answer
Genre	<ul style="list-style-type: none"> • Male: 32% • Female: 74%
Age	<ul style="list-style-type: none"> • 15 – 25 years old: 49,1% • 26–35 years old: 39,6% • 36–45 years old: 8,5% • Above 45 years old: 2,5%
Education	<ul style="list-style-type: none"> • Senior High School: 14,2% • Bachelor’s degree: 67,9% • Magister: 15,1% • Doctoral 1,9% • Others 0,9%
Job	<ul style="list-style-type: none"> • Students/ College: 36,8% • Private employee: 29,2% • state-owned employees: 4,7% • Civil servant/ Army/ Police: 5,7% • Professional: 3,8% • Housewives: 9,4% • Others: 10,4%
Length of Stay	<ul style="list-style-type: none"> • Not staying: 33% • 1–2 days: 29,2% • More than 2 days: 37,7%
Travel companion	<ul style="list-style-type: none"> • Friends: 44,7% • Spouse/ family: 37,7% • Unaccompanied: 2,8% • Colleagues: 15,1%
Visiting period	<ul style="list-style-type: none"> • First time: 34% • Second time: 20,8% • More than 2 times: 45,3%
Purpose	<ul style="list-style-type: none"> • Holiday: 72,6% • Business/ work: 13,2% • Others: 14,2%

information and experiences [9]. The homestay can be the adaptation of ecotourism concept as well in the post covid era [10].

For their activities, respondents choose adventure activities around Menoreh Mountain. And the last one, the respondent prefers doing the trip with tour guides.

The second table shows the relative importance for each attribute which is called importance values, as shown in Table 5. The values are computed by taking the utility range for each factor separately and dividing by the sum of the utility ranges for all factors, with the total score of 100,00 [8]. Based on the result, the most important attribute to be

Table 4. The utility score of each level

		Utility Estimate	Std. Error
Accessibility	Private Vehicle	.086	.020
	Rental Vehicle	-.086	.020
Amenities	Restaurant	-.026	.020
	Local food	.026	.020
Accommodation	Local people homestay	-.131	.028
	Non star hotel	-.086	.027
	Star hotel	.216	.032
Activities	Adventure	.165	.039
	Traditional Culture	-.074	.039
	Traditional Art	-.087	.039
	Enjoying the nature	.092	.043
	Educational History	-.097	.039
Ancillary	With tour guides	0.17	.020
	Without tour guides	0.17	.020
(Constant)		3.628	.021

Table 5. The importance values of each attribute

	Importance Values
Accessibility	11.784
Amenities	9.332
Accommodations	25.589
Activities	39.999
Ancillary	13.295
Averaged Importance Score	

developed in Borobudur area is **activities**. Then followed by **accommodation, ancillary, accessibility, and amenities**.

Table 6 shows the last table which explain correlation table with the score of Pearson's R and Kendall's tau. These two scores show the correlation between respondent's preference and the prediction score. As conjoint analysis' purpose is to predict the pattern of respondent's preferences which called as Estimates Part-Worth, then compare it to the actual respondent's preferences [11]. If the score is more than 0,5, it means there is a strong relationship between actual preference to the estimated preference. As we

Table 6. The Correlations Score

Correlations ^a	Value	Sig
Pearson's R	.936	.000
Kendall's tau	.823	.000

a. Correlations between observed and estimated preferences

see in the table, Pearson's R score is 0,936 and Kendall's tau score is 0,83. This shows the **strong relationship** between actual and estimated preference.

Then, the last part of the analysis is to count the highest utility score of each stimulus. This analysis will show which stimulus or combination is the most attractive to the respondents. We count each of stimulus on Table 2 by replacing each level with the utility score from Table 4. Table 7 shows the result which indicates the rank of preference of all respondents.

Table 7. Rank of preferences of respondents

No	1	2	3	4	5	Total Utility	Rank of Preference
24	0,086	0,026	0,216	0,165	-0,017	0,476	1
9	0,086	-0,026	0,216	0,017	0,017	0,31	2
5	-0,086	0,026	0,216	0,092	-0,017	0,231	3
13	0,086	-0,026	0,216	-0,074	0,017	0,219	4
21	0,086	0,026	-0,086	0,165	0,017	0,208	5
20	0,086	-0,026	-0,131	0,165	0,017	0,111	6
2	0,086	-0,026	-0,086	0,092	0,017	0,083	7
18	0,086	0,026	-0,086	0,017	0,017	0,06	8
1	-0,086	-0,026	0,216	-0,087	0,017	0,034	9
15	0,086	-0,026	-0,131	0,092	-0,017	0,004	10
10	0,086	-0,026	-0,086	0,017	-0,017	-0,026	11
22	-0,086	-0,026	-0,086	0,165	-0,017	-0,05	12
14	-0,086	-0,026	-0,131	0,165	0,017	-0,061	13
3	0,086	0,026	-0,131	-0,074	0,017	-0,076	14
6	0,086	0,026	-0,086	-0,087	-0,017	-0,078	15
7	-0,086	0,026	-0,131	0,092	0,017	-0,082	16
12	0,086	0,026	-0,131	-0,074	-0,017	-0,11	17
8	0,086	-0,026	-0,131	-0,087	0,017	-0,141	18

(continued)

Table 7. (continued)

No	1	2	3	4	5	Total Utility	Rank of Preference
16	-0,086	0,026	-0,131	0,017	0,017	-0,157	19
11	0,086	-0,026	-0,131	-0,087	-0,017	-0,175	20
4	-0,086	0,026	-0,086	-0,087	0,017	-0,216	21
23	-0,086	-0,026	-0,131	0,017	-0,017	-0,243	22
19	-0,086	-0,026	-0,086	-0,074	0,017	-0,255	23
17	-0,086	-0,026	-0,086	-0,074	-0,017	-0,289	24

Based on the table, we can see that most preferred combination of attributes is the stimulus number 24, which is the combination of using private vehicle, eating a local food, staying in a star hotel, doing adventure activity around Menoreh Mountain (such as adventure jeep, hiking/ tracking, outbound), and without any tour guides. Meanwhile, the least preferred combination is the stimulus number 17 which is the combination of using rental vehicle, eating in the restaurant, staying in a non-star hotel, doing traditional cultural tourism (such as traditional ceremony, culinary workshops), and without tour guides.

5 Conclusion and Further Study

Based on the research, the most important attributes for the tourism elements in Borobudur area are the activities created for the tourists. And the combination of products that can be created is using private vehicle, eating a local food, staying in a star hotel, doing adventure activity around Menoreh Mountain (such as adventure jeep, hiking/ tracking, outbound), and without any tour guides, since it has the highest utility score.

Further research can be done into other destinations with various tourism elements. Further research should also bring the concept of sustainability within the research. The destination that can use this kind of methodology is the destination with various tourism elements. The limitation of this study is about the number of respondents, although it has met the requirements. However, the bigger number of respondents will bring a more precision result. The result of this study can be the suggestion to develop new products that are suitable to tourist preference. It is hopefully become the product innovation to make a sustain destination.

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Bajamba Traditional Dining Culture of Nagari Jawi-Jawi West Sumatera as a Potential Sustainable Gastronomy Tourism Attraction

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Abstract. The study of gastronomy explores diverse cultural elements with food as its focal point of analysis. It encompasses more than just the physiological aspects of food and drink, delving into a regional culinary perspective as a cultural element and an asset crucial for the region's tourism industry development, boosting local income, and enhancing people's well-being. An example of a gastronomic product is the traditional Indonesian eating style known as "Makan Bajamba" from Nagari Jawi-jawi in West Sumatra. This particular cultural eating tradition emphasizes on local traditions which involves the empowerment of women through the "bundo kanduang" (a traditional Minangkabau term for a respected woman) and gastronomy. These aspects are integral to a sustainable living concept that promotes high-quality and sustainable tourism. Preserving the traditional Indonesian intangible cultural heritage of "Makan Bajamba" necessitates effective governance and the integration of economic, social, cultural, and environmental values. In this study, the authors specifically focused on evaluating how sustainable tourism and gastronomy principles can be applied to the traditional way of Bajamba. This approach highlights the potential for making Bajamba's dining tradition an appealing aspect of sustainable tourism gastronomy activities. This qualitative study utilized a variety of data collection methods, including in-depth interviews, focus group discussions, and field observations. The data analysis approach employed was Narrative Analysis, which involves scrutinizing the stories and narratives provided by the participants, specifically the villagers and stakeholders from Nagari Jawi-jawi. The results of this study highlight the crucial need to increase promotional efforts targeting both national and international tourists, recognizing the potential of developing the Bajamba tradition as a sustainable gastronomy tourist attraction. The findings also stress the importance of a strategic sustainable tourism approach, aiming to maximize the economic benefits and their subsequent positive effects on society. Additionally, active engagement of the younger generation in Bajamba eating activities is emphasized as a critical factor. This involvement is essential for the preservation and continuation of the Bajamba eating tradition, ensuring its endurance as generations evolve and safeguarding it from potential disappearance.

Keywords: sustainable gastronomy tourism · tourism product · Indonesian traditional eating culture · Bajamba traditional dining

1 Introduction

Tourism is an important mechanism for development in many developing countries, where expectations for economic improvement are based on total tourism revenues [1]. The Minister of Tourism and Creative Economy of the Republic of Indonesia, Mr. Sandiaga Uno (2021), stated that revenue from the tourism sector contributed to the country's foreign exchange of 3.2 billion US dollars in 2020. Even though it has decreased by 74.8% due to the pandemic, tourism still contributes the largest amount of foreign exchange for Indonesia; even in the next five to 10 years, it is targeted to increase by 10 - 15% and increase its contribution to the gross domestic product (GDP) by 4.3%. This shows the magnitude of the potential and opportunities for the tourism sector to revive.

Gastronomy has now become a fundamental instrument for the development of tourism in a destination [2]. Recent literature on culinary tourism highlights the importance of adequate and optimal management of gastronomic tourism as an engine of the tourism sector [3] and has also proven the importance of empirical research that provides practical answers for this industry [3, 4].

As an industry that is ready to rise and become Indonesia's mainstay, it is very important for Indonesian tourism products to be sustainable. The United Nations World Tourism Organization (UNWTO) states that the principle of sustainability refers to the environmental, economic, and socio-cultural aspects of tourism development and growth as well as the balance between the three aspects. Sustainable tourism is scheduled through the Sustainable Development Goals (SDGs), which aim to promote sustainable development through monitoring and controlling the use of natural resources, encouraging conservation efforts, creating job opportunities for local communities while promoting local culture and products, and using marine resources in a sustainable manner so that can increase economic benefits [5].

Indonesian tourism products in the field of culture, which also include gastronomic tourism, also need to pay attention to their sustainability. Gastronomy is a study that discusses the relationship between cultures in enjoying food and drink in an area. Gastronomy studies various cultural components with a culinary center as the center of analysis. Gastronomy not only describes food and drink in physiological studies but also examines them from a regional culinary point of view as a cultural aspect and an asset for the region in developing the tourism industry, increasing regional income, and improving people's welfare. As the gastronomic experience has evolved beyond the basic function of hospitality in providing food to tourists, more and more attention has been paid to the nature and structure of the experience. Branding tourism and hospitality [6].

Despite the numerous efforts to promote sustainable tourism, particularly focusing on the food sector, the available scientific literature dedicated to the sustainability of the food and beverage sector concerning traditional food service and culture remains notably limited. This scarcity of research is evident through extensive data searches conducted on various academic platforms such as Google Scholar, Scopus, ResearchGate, and

other journal search sites. It is imperative to highlight that culture and traditional dining practices represent a gastronomic asset deserving significant attention to ensure their sustainability in the realm of tourism [7, 8].

According to recent research [7–10], it is essential to document traditional Indonesian dining practices to ensure their continued recognition and prevent them from fading into obscurity. These eating habits in Indonesia encompass various traditions, including Bajamba from West Sumatra, Saprahan from West Kalimantan, Patita from Maluku, Megibung from Bali, and Ngeliwet from West Java.

One of Indonesia's traditional dining practices that has evolved into a gastronomic tourism product is the tradition of "Makan *Bajamba*" from Nagari Jawi-jawi, located in West Sumatera. Situated in the Gunung Talang District, Solok Regency, West Sumatera, the Nagari Jawi-jawi Cultural Village is dedicated to promoting local wisdom and empowering women through their *bundo kandung* (a traditional Minangkabau term for a respected woman) and gastronomy, embodying a holistic approach for high-quality tourism experiences. Notably, the Culture Office of West Sumatera Province (2021) has officially recognized Makan Bajamba Nagari Jawi-jawi as an intangible cultural heritage asset of Indonesia. Makan Bajamba, as a traditional practice, embodies a value system that holds significant importance within the community. These values encompass principles of decency, politeness, discipline, hard work, togetherness, friendship, and various other values that are regarded as essential for ensuring sustainable livelihoods in the future.

Being a traditional Indonesian intangible cultural heritage, Bajamba necessitates effective governance and should encompass economic, social, cultural, and environmental values. In this particular study, the authors opted to analyze the implementation of sustainable principles concerning Bajamba as a traditional dining service experience that can be off potential as a sustainable tourism gastronomy attraction.

This study aims to achieve four main objectives: Identify and assess the application of sustainable tourism principles to the dining practice of Bajamba. Analyze the roles of various stakeholders in effectively managing the Bajamba tradition as a gastronomic tourism product. Seeks to investigate how the principle of sustainability is integrated into Bajamba's traditional dining practice. Additionally, it endeavors to understand and evaluate the responsibilities and contributions of stakeholders in the effective management and promotion of the Bajamba's tradition as an attractive element of gastronomic tourism product for experiential tourism attraction. Overall, this research focuses on analyzing how sustainability principles are applied to the Bajamba way of dining in Nagari Jawi-jawi.

The development of cultural tourism guided by sustainability principles and policies plays a crucial role in preserving local and cultural values amidst the challenges of globalization. Without a sustainability-focused approach, cultural tourism can potentially lead to adverse impacts, including harm to regional cultural assets, cultural alienation, and loss of authenticity [11–16] Hence, proper analysis and management of the destination's cultural heritage within the sustainability framework are essential during the planning of sustainable cultural tourism [17–19].

Collaboration among tourists, the private and public sectors, local communities, local governments, regional and international organizations, and academicians is crucial for

effectively planning and managing cultural tourism in a destination. This collaborative effort facilitates the development of cultural tourism within the country, aligning with a sustainability approach framework [20]. Therefore, the adoption and integration of sustainable principles in cultural tourism are highly significant [16].

Gastronomic tourism, which centers around the uniqueness of dishes and their ties to a specific place, region, or country, encompasses the fundamental aspects of native cuisine [21–23]. Tours motivated by a desire to explore and experience authentic cuisine are often referred to as gastronomic tours. Gastronomic tourism plays a pivotal role in enriching the overall tourism experience, extending beyond just food [24–27]. Gastronomy is pursued for both primary and secondary motivations. Primary motivation involves individuals visiting specific places primarily to relish the culinary offerings, while secondary motivation includes those who, although gastronomy isn't their main purpose, still consider it an essential aspect in planning their trip [28]. Gastronomic tourism has evolved into a lifestyle where individuals engage their senses to seek novel experiences and acquire knowledge during their travels [28–30]. A crucial aspect for advancing gastronomic tourism lies in the local community's dedication to preserving the indigenous products of their region. Culture, being an integral part of gastronomic tourism, is predominantly manifest in people's genuine interest in exploring diverse cultures [17, 31, 32]. Gastronomic tourists are cultural tourists as well because they learn about the cultural characteristics of the host region through the local dishes [33–36]. Traditionally, gastronomy has been primarily associated with culinary enjoyment, or the practice or the art of selecting, cooking, and eating good food, as the Oxford dictionary states. Today, we define gastronomy as the science of taste and tasting [24, 37–45, 52], Bajamba is a gastronomic asset; a tradition of eating large meals together in the Minangkabau community. Bajamba food is usually served at a *baralek* party or event, such as the commemoration of Islamic religious holidays, traditional ceremonies, and other important meetings." *Makan Bajamba*" instills a multitude of values, emphasizing togetherness irrespective of social status, fostering stronger friendships, promoting good manners, and encouraging mutual respect (Ministry of Tourism, 2017). Bajamba food holds profound significance, and the practice of dining together in a circle, regardless of one's social standing, cultivates a sense of unity. This tradition symbolizes unity and interconnectedness, evoking a strong spirit of community cohesion.

Bajamba meals are typically hosted in a designated room or area, often accommodating tens to thousands of individuals. Attendees are organized into several groups, usually ranging from 3 to 7 people per group. Each group forms a circle and is provided with an iron tray approximately 50 cm in diameter. In the center of each tray, a plate of rice and an array of side dishes from Minangkabau cuisine are arranged. The side dishes encompass a variety of options, including meat like Rendang, poultry such as Chicken Curry, vegetables like Steamed Cassava Leaves, Jackfruit Curry, Potatoes Patties, and fish, for instance, Fried Bilis Fish sautéed with green chili, among others. The communal arrangement encourages a shared dining experience and a sense of togetherness. This tradition typically commences with a series of Minangkabau performing arts. It initiates with the reading of the holy book, followed by the recitation of a poem called "*Pantung Pasambahan*" to pay homage to all the attendees. The recitation of this traditional rhyme

involves a friendly competition among the leaders from different tribes and the respected *Ninik Mamak*, adding to the cultural richness and lively atmosphere of the gathering.

The Bajamba tradition is rooted in Kotogadan, located in the Agam district of West Sumatera, with origins dating back to the entry of Islam into Minangkabau around the 7th century. As a result, the etiquette (*adab*) observed in this tradition is primarily based on Islamic teachings, particularly the hadith. Several *adab* practices are an integral part of this tradition:

1. **Respect for Elders:** An important aspect of *adab* is the priority given to elders when taking food. One should begin by serving and taking what is in front of the elders before oneself.
2. **Right-Hand Usage:** While eating, it's customary to scoop rice using the right hand, which is considered more respectful and cleaner.
3. **Method of Eating:** A specific eating technique is followed, where a small portion of rice is squeezed between the fingers and placed in the mouth after adding a bit of side dish. The left hand is placed below while the right hand is used for eating to prevent spillage.
4. **Proper Handling of Food:** If any rice is scattered in the left hand, it should be transferred to the right hand and then consumed in the same manner.

These *adab* practices not only reflect Islamic teachings but also emphasize respect, order, and traditional etiquette during the Bajamba tradition. The traditional way of Makan Bajamba serves several practical and cultural objectives. One of the objectives is to prevent the rice from sticking to one's teeth, enhancing the overall dining experience. Additionally, the practice of serving and eating Bajamba in this manner helps in creating an inclusive and engaging communal atmosphere, preventing potential monotony that might arise from individualized plate-based consumption. Continuing with the etiquette in the Bajamba tradition:

1. **Sitting Posture:** Proper sitting posture is observed, where individuals sit upright without bending, with specific guidelines for men and women. Women maintain an upright position without kneeling (*basimpuah*), while men sit cross-legged (*baselo*).
2. **Food Consumption Etiquette:**
 - a. **Emptying the Plate:** It's customary to ensure that no rice is left on the plate, and all the food provided should be consumed.
 - b. **Order of Taking Food:** One should follow the sequence of taking food, giving priority to parents before serving oneself.
 - c. **Silent Eating:** Making minimal noise while eating is considered polite. Chewing quietly and refraining from creating disruptive sounds, especially when consuming spicy food, is observed to maintain a pleasant dining atmosphere for everyone.
 - d. **Feeding Rules:** Hands are not put directly into the mouth while eating. Instead, a small mouthful of rice is taken using the tip of the right hand, held slightly above the head.

This etiquette underscores the values of respect, consideration for others, and mindfulness during mealtime, adding to the cultural and communal significance of the Bajamba tradition. (Ministry of Tourism, 2017).

2 Research Method

This study employs the qualitative research method outlined by [46] Various data such as primary data were collected through In-depth Interviews, involving open-ended, semi-structured interviews to gather detailed insights from stakeholders of Nagari Jawijawi. Interviews were conducted by the authors with key informants who are experts in the field of tourism and administrators of Nagari Jawi-jawi Cultural Village. Additionally, Focus Groups were conducted, bringing together community participants to engage in guided discussions about Bajamba and related topics. Observations were carried out by the research team, systematically recording behaviors, interactions, and contexts in naturalistic settings. This encompassed observation made while actively participating in the village Bajamba parade during the village birthday celebration. During this event, numerous “bundo kanduang” elegantly balanced trays on their heads, symbolizing the transportation of food to the village hall. The food brought by these individuals was then collectively served and enjoyed by the entire community, further enhancing the sense of togetherness and community spirit integral to the Bajamba tradition. Table 1 shows the items used in Bajamba eating culture, while Fig. 1 represents the procession parade.










Fig. 1. The Bajamba Procession Parade and Traditional Eating Source: author documentation (2023)

The secondary data for this study comes from online documents: Information gathered from online sources relevant to the topic. **Literature:** Insights and background information obtained from relevant literature. **Scientific Journals:** Extracted data from academic journals providing a scholarly perspective on the subject. The data collected went through a thorough analysis involving several stages, which include:

1. **Data Selection (Data Reduction):** The initial step involved selecting and reducing the data to ensure relevance and focus.
2. **Data Presentation (Data Display):** The data was presented systematically to facilitate a clear view of the information collected.
3. **Conclusion:** The data was then analyzed, and conclusions were drawn using predetermined theories, concepts, and strategies.

This comprehensive approach ensured a robust analysis of the data gathered, integrating both primary and secondary sources to derive meaningful insights for the study. In this context, the qualitative data collected is centered around comprehending how sustainable principles can be applied effectively to Bajamba’s eating traditions. The primary goal of the research is to gain a comprehensive understanding of this concept to optimize the integration of sustainable principles within Bajamba’s traditional practices, ultimately yielding benefits for the cultural village.

Table 1. Items used in bajamba eating culture

No	Items Used in Bajamba Eating Culture	Pictures
1.	<i>Rumah Gadang</i> - Traditional House of Minangkabau	
2.	<i>Tingkuluak</i> – Minangkabau head cover for women	
3.	<i>Piring dan Gelas Kansa</i> - Plates and Mug	
4.	<i>Tuduang saji</i> – Traditional food cover	
5.	<i>Cambuang</i> – - Alumunium container used to serve rice	
6.	<i>Jamba</i> – Item used to place all foods served in Bajamba	
7.	Dalamak – Fabrics used to cover the food	

Source: author documentation (2023).

The chosen research method involves a descriptive and qualitative approach, specifically concentrating on the Nagari Jawi-jawi Cultural Village situated in West Sumatera. This location was selected due to its active promotion of Bajamba as a tourism product and its proposition to acknowledge eating Bajamba as a national intangible cultural heritage.

The data employed in this study primarily consists of qualitative information, providing descriptive insights into the practical application of sustainable principles within the traditional Bajamba practices. This data will serve as the foundation for further analysis and exploration into sustainable gastronomic tourism within the Bajamba tradition.

3 Result and Discussion

Nagari Jawi-jawi stands as a region abundant in the splendors of nature, artistic culture, and delightful cuisine. Recognizing this richness, the initiative was taken in 2017 to designate Nagari Jawi-jawi as a cultural village, acknowledging the significance of preserving, nurturing, and evolving its cultural heritage. Among these cultural practices, Makan Bajamba holds a central place for the Minang people. Makan Bajamba, as a traditional dining ritual, is deeply ingrained in various traditional ceremonies and rituals, such as the *Batagak Gala*.

The local wisdom encompassed in this tradition holds profound philosophical and cultural values, leading to the recognition of Makan Bajamba Nagari Jawi-jawi as a national intangible cultural heritage. A strategic approach to preserving this rich culture involves elevating it to a premier tourism product from the Nagari Jawi-Jawi Cultural Village. By doing so, not only does it preserve and celebrate the culture, but it also offers an enriching experience for visitors, further enhancing the cultural and economic significance of the region.

Makan Bajamba in Nagari Jawi-jawi has been tailored for tourists to allow them to experience the cultural richness without the necessity of engaging in specific traditional rituals or ceremonies like the recitation of rhymes by Niniek Mamak, which are traditionally practiced by the local community. The cultural immersion begins with the donning of traditional attire, such as *tingkuluak* (a triangular head covering) and sarongs for women, while men wear neat clothing. Tourists are then guided to adopt the local sitting posture - cross-legged for men and kneeling for women - at the *Rumah Gadang* (a traditional Minangkabau house).

This immersive experience enables tourists to feel akin to local residents, providing a glimpse into the local culture even without partaking in specific traditional events, which may not occur on a regular basis. Following this, tourists have the opportunity to savor specialties of Nagari Jawi-jawi, prepared using unique local recipes. These include dishes such as *Petai Cino Sambalado Masiak*, *Rendang Panguah*, and *Sayur Ampo-Ampo*, which are distinct to this region and not readily available in other parts of the country. This distinctive culinary experience is a defining aspect of Makan Bajamba Nagari Jawi-jawi, showcasing the cultural strength and uniqueness of the tradition.

The culinary ingredients used to prepare Bajamba dishes predominantly come from natural and local resources. Vegetables like *ampo-ampo* and *petai-cino*, essential for these dishes, are sourced from plants abundantly available in the vicinity of the homestays where Bajamba activities take place. This approach ensures freshness in the food served, emphasizes local sustainability, and minimizes carbon emissions by reducing the need for extensive transportation of ingredients. The transformation of the traditional practice of eating bajamba offered into a gastronomy product was initially initiated to generate economic value for the local community. This effort was aimed to provide an

avenue for individuals engaged in farming and related activities to reap the benefits of tourism in Nagari Jawi-jawi. However, a significant challenge emerged with the onset of the COVID19 pandemic shortly after the launch of the cultural village's gastronomy products. The pandemic led to a drastic reduction in tourist visits, severely impacting the economic potential of Makan Bajamba. As a result, the anticipated economic benefits of this gastronomic venture have not been fully generated by the local community. The economic repercussions are evident in the reduced tourism demand, highlighting the vulnerability of tourism-based economic endeavors to unexpected external factors.

The sustainability of Makan Bajamba involves the active participation and collaboration of various stakeholders. Key stakeholders in maintaining this sustainability include:

1. **Local Community and Tourism Awareness Group (Pokdarwis):** The Nagari Jawi-jawi Cultural Village is managed by the local community, particularly through the Tourism Awareness Group (Pokdarwis), which comprises 30 members. Community involvement is extensive, ranging from active participation in events to contributing to the presentation of tourism products. Children, youth, and adults, including Bundo Kandang, are directly engaged in dance, music performances, and preparations for the Makan Bajamba procession.
2. **Nagari Jawi-jawi Culinary Pokdarwis Team:** The Nagari Jawi-jawi Culinary Pokdarwis Team plays a vital role in determining and preparing the menus served during Makan Bajamba. They collaborate with the local community, especially in the preparation of larger quantities of food.
3. **Local Government:** The local government supports and promotes Makan Bajamba by designating it as a tourism icon for the Solok district. The eating procedure of Bajamba is incorporated into significant government events, underscoring its cultural and touristic importance.
4. **Media:** The media also plays a significant role in promoting and sustaining Makan Bajamba. Through coverage, articles, and features, the media helps in raising awareness about this cultural and gastronomic tradition, attracting more visitors and tourists.

The collaboration and active involvement of these stakeholders ensures the sustainability and promotion of Makan Bajamba as a valuable cultural and tourism asset.

The role of various stakeholders in promoting and sustaining Makan Bajamba is clearly delineated:

1. **Media:** The media serves as an essential external disseminator of information, covering Makan Bajamba activities extensively. Their coverage helps in promoting Makan Bajamba to a wider audience, generating interest and attracting more visitors.
2. **Private Travel Agents:** Private travel agents actively contribute to the promotion and selling of Makan Bajamba experiences. Their collaboration with the local Tourism Awareness Group (Pokdarwis) aids in attracting tourists to Nagari Jawi-jawi and experiencing the cultural and gastronomic richness of Makan Bajamba.

3. **Academics:** While community members, local government, media, and private travel agents are actively involved, the engagement of academics in Makan Bajamba is relatively limited. It has not received significant attention from the academic community, representing a potential area for further research and academic involvement.

Incorporating a multidimensional approach involving media coverage, collaboration with private travel agents, and encouraging academic engagement could potentially enhance the visibility, tourism appeal, and academic understanding of Makan Bajamba, ensuring its sustainability and long-term promotion.

4 Conclusion

Based on the insights obtained from the research result, the following recommendation can be suggested to ensure the sustainability of Makan Bajamba Tradition in Nagari jawi-jawi Cultural Village:

1. **Handbook and Documentation:** Creating a comprehensive handbook and documentation outlining the eating procedures and menus served at Bajamba is crucial. This resource will serve to preserve and showcase the unique cultural and gastronomic aspects of Bajamba.
2. **Promotional Efforts:** There is a critical need to intensify promotional efforts targeting both national and international tourists. Effective promotions will not only enhance the economic benefits but also positively impact society.
3. **Engaging the Younger Generation:** To ensure the continuity and preservation of the Bajamba tradition, active involvement and engagement of the younger generation in Bajamba eating activities are paramount. This engagement will safeguard the tradition from fading away with changing times and evolving generations.

Given the specific ceremonial event held in the Village during the observational period, this study exclusively focuses on the potential of Bajamba Traditional Dining Culture in Nagari Jawi-jawi, West Sumatera, without encompassing other regions applying the same Bajamba culture in the province. The observation was limited to a single instance during this event due to the constraints of time and resources.

Transforming "Makan Bajamba" culture into a sustainable gastronomy tourism product involves several key steps and considerations to enhance its appeal and viability within the tourism industry, therefore further research regarding its preparations can be undertaken in these areas:

1. **Conduct thorough research and documentation** of the Bajamba eating culture, including its historical context, traditional rituals, ingredients, preparation methods, and significance in Minangkabau culture.
2. **Cultural Immersion Experience:** study an immersive experience design that allows tourists to engage with the cultural elements of Bajamba.
3. **Marketing and Promotion:** Develop a comprehensive marketing strategy model for cultural and culinary experiences.

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Halal Awareness and Lifestyle on Purchase Intention

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Abstract. This study analyzed the effect of lifestyle on purchase intention, the effect of halal awareness on purchase intention, the influence of lifestyle on halal awareness, influence of lifestyle on purchase intention through halal. The research method was quantitative. The sample used was 560 respondents, stratified by sex, age, type of work, level of education, and total monthly income. The data collection technique used an online questionnaire distributed via social media on a Likert scale of 1–5. Data analysis used the partial least squares (PLS) model approach with SmartPLS 3.0. The size of the significance of the hypothesis support can be used by comparing t-tables and t-statistics. The hypothesis is accepted if the t-statistic value is higher than the t-table value ($t\text{-statistic} \geq 1.96$). In the SEM-PLS analysis, two models were used: outer model analysis and inner model analysis. The measurement model (outer model) defined the relationship between each indicator block and its latent variables. The structural model (Inner Model) examined the relationship between the constructs. The findings of this study demonstrate that lifestyle has a positive and significant impact on purchase intention, halal awareness has a positive and significant impact on purchase intention, lifestyle has a positive and significant impact on halal awareness, and lifestyle has a positive and significant impact on purchase intention via halal awareness.

Keywords: Lifestyle · Halal Awareness · Purchase Interest · Halal Products

1 Introduction

According to [1] Covid-19 which has also affected the world, has entered Indonesia. The World Health Organization (WHO) establishes this coronavirus as a global pandemic based on the number of sufferers outside China. Therefore, the stan to reduce transmission, one of which is to stay at home. In this order, every activity, such as work, school, and play, must be conducted at home. According to [2] reduced outside activities affect the micro and macro economy. Lifestyle refers to a consumer's way of life from daily activities through consumer interests and opinions. Lifestyle can be seen in the consumption patterns of society. Based on the study by [3, 4], the population has experienced an increase in spending by 56%, and the dominant expenditure on food ingredients.

According to [5] consumers with good halal awareness are more careful in consuming and obtaining a product. Interest in buying is a response from consumers to objects that encourages consumers to make purchases. Consumer buying interest is the phase in which consumers choose from several brands. Then, purchases are made based on the things they like best or the process consumers go through to buy an item or service based on many considerations [4]; [6] argue that consumers' buying interest can motivate them to buy what they want.

In a previous study conducted by [2]; [1], it was stated that lifestyle and halal awareness affected purchasing decisions. Although they both used lifestyle variables and halal awareness as influence variables, the dependent variable used by [5]; [6], is the decision to purchase food products, whereas this study uses the variable interest in buying food products. This study was a new normal period due to the Covid-19 pandemic. Based on [2] this background, the researcher is interested in conducting this research to identify the influence of lifestyle and halal awareness on product purchase intention.

Lifestyle characteristics, or the activities that a person engages in to meet their needs, such as work, hobbies, shopping, entertainment, sports, and one's interests based on the desire for the desired product, as well as one's opinion or view of a product to be purchased, can influence consumer behavior. This is because different consumers have different needs, and different ways of meeting those needs [7]. Thus, when choosing a product, consumers will choose based on what is most needed and follow their buying interests, one of which is their lifestyle.

Following halal brands influences buying interest, and the results are similar to research directed by halal names that affect buying interest because halal confirmation will build the best available quality claimed with the aim that it is the customer's best choice. When a halal brand is guaranteed, buyer loyalty is created. The results of research conducted by [2] also concluded that the quality of goods, costs, facilities, and emotional factors affect consumer loyalty. This information includes an understanding of which products can be consumed and how to make them [4] state that purchase choice or purchase decision is the stage in the dynamic cycle where the buyer buys the item.

According to [8]; [9], from several descriptions and explanations regarding halal awareness and decisions in choosing something, in this case, there are stages in the consumer decision model such as requiring recognition or recognition of needs, data search, elective assessment, purchase, and consumer loyalty [10], three main factors influence the cycle buyer's choices: display techniques, individual contrast, and natural variables.

According to [11]; [12], data search begins when the buyer feels he has a need that can be met by buying and consuming an item. Data can be from something known or from outside; for the next stage, options or opinions can be assessed. At this stage, the buyer processes and decides on items and brands and selects them as desired. This study analyzed the effect of lifestyle on purchase intention, the effect of halal awareness on purchase intention, the influence of lifestyle on halal awareness, influence of lifestyle on purchase intention through halal awareness.

2 Research Method

The research method was quantitative. The sample used was 560 respondents. The data collection technique used an online questionnaire distributed via social media on a Likert scale of 1–5. Data analysis used the partial least squares (PLS) model approach with SmartPLS 3.0. The size of the significance of the hypothesis support can be used by comparing t-tables and t-statistics. If the t-statistic value is higher than the t-table value, the hypothesis is accepted ($t\text{-statistic} \geq 1.96$). In the SEM-PLS analysis, two models were used: outer model analysis and inner model analysis [13]. The measurement model (outer model) defined the relationship between each indicator block and its latent variables. The structural model (Inner Model) was used to examine the relationship between the constructs [13].

3 Result and Discussion

All research variable indicators have an outer loading value more than 0.7, according to the data analysis from the online survey presented in Fig. 1, hence all indicators meet the requirements for convergent validity.

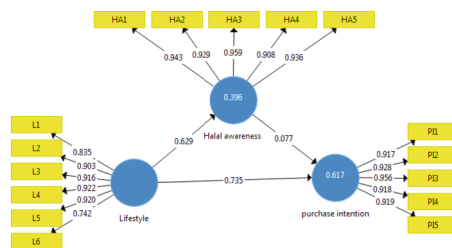


Fig. 1. Loading Factors

Discriminant Validity

All of the variables' AVE values were more than 0.5 based on the information in Table 1's data. As a result, it can be said that all variables have good discriminant validity, and their combined reliability value is higher than 0.7.

Since it is based on the reliability and convergent validity tests, it has been possible to acquire workable items and variables, and the examination of discriminant validity using the cross-loading value had already produced promising findings. PLS-SEM analysis was still possible because the AVE value was also higher than 0.5.

Heretroit – Monotrait Ratio (HTMT)

The Heretroit-Monotrait Ratio (HTMT) is the most recent measurement criterion. The construct has strong discriminant validity if the HTMT value is 0.90 (Table 2).

The HTMT test's findings are as follows: with an HTMT value of 0.312 0.90, lifestyle on purchasing intention has good or distinct discriminant validity from other constructs. With HTMT values of 0.462 0.90, discriminant validity for halal awareness and purchasing intent was either excellent or entirely distinct from other components.

Table 1. Reliability Testing

Variable	Cronbach’s Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Halal awareness	0.823	0.865	0.704	0.643
Purchase Intention	0.809	0.876	0.803	0.602
Lifestyle	0.832	0.809	0.807	0.645

Source: Data Processing, 2023.

Table 2. HTMT Ratio

Variables	Heretroit – Monotrait Ratio (HTMT)		
	Halal awareness	Purchase Intention	Lifestyle
Halal awareness			
Purchase Intention	0.462		
Lifestyle	0.321	0.312	

Source: Data Processing, 2023.

3.1 Variant Analysis (R2) or Determination Test

F-Square

The F-square calculation evaluates the relative influence of an exogenous (influencing) variable on an endogenous (affected) variable. The following are the F-square requirements: (1) If the F-square value is less than 0.02, the impact of exogenous variables on endogenous variables is minimal; (2) If the F-square value is greater than 0.15, the impact of exogenous variables on endogenous variables is substantial; and (3) If the F-square value is greater than 0.35, the impact of exogenous variables on endogenous variables is substantial.

Table 3. F-Square

Variables	F-Square		
	Halal awareness	Purchase Intention	Lifestyle
Halal awareness		0.561	
Purchase Intention			
Lifestyle	0.096	0.021	

Source: Data Processing, 2023.

The following conclusions can be drawn from the F-Square results in Table 3: A small effect of exogenous variables on endogenous variables is indicated by lifestyle and

purchase intention, with an f-square of 0.021. F-square = 0.096 for lifestyle and halal knowledge shows a negligible impact of exogenous variables on endogenous variables.

Q-square

A greater Q-square value shows that the structural model fits the data, and it is also used to assess the model's generality. Table 4 displays the findings from this study's Q-square test:

Table 4. Q-square Test Results

Variable	SSO	SSE	$Q^2 (=1 - SSE/SSO)$
Lifestyle	600,000	600,000	
Purchase Intention	600,000	383,710	0.370
Halal awareness	600,000	383,651	0.420

Source: Data Processing, 2023

According to Table 4, the two endogenous variables' combined Q-Square values equal 0.79. The degree of the diversity of the data provided by this study model, according to these results, was 79.%. In contrast, other factors outside the study's model explained the remaining 21%. As a result, the research model satisfies the criteria for goodness (model fit).

3.2 Hypothesis Testing Direct Effect

Indirect Effects

If the p-values are greater than 0.05, that meets the criterion for determining the indirect effect. It is not significant, indicating that the effect of an exogenous variable (buying intention) on an endogenous variable (lifestyle) is mediated by the mediator variable (halal awareness). This effect was therefore immediate.

Table 5. Hypothesis testing

Correlation	T Statistics	P Values	Result
Lifestyle -> purchase intention	9.943	0.000	Supported
Halal awareness -> purchase intention	6.995	0.000	Supported
Lifestyle -> halal awareness	9.302	0.000	Supported

Source: Data Processing, 2023.

Thus, it can be concluded that the Direct Effect values and Indirect Effect values are shown in Tables 5 and 6. An indirect effect of lifestyle -> halal awareness -> Purchase Intention, P- values $0.003 < (0.05)$ (significant), then the brand image can mediate the effect of lifestyle and purchase intention.

Table 6. Indirect Effects

Correlation	P Values	Result
Lifestyle -> purchase intention through halal awareness	0.003	Supported

Source: Data Processing, 2023.

4 Discussion

The Influence of Lifestyle on Purchase Intention

From the analysis results, it can be determined that lifestyle influences interest in buying products in the new normal era. According to [14]; [15], their results show that lifestyle positively affects purchasing decisions. [16-20] also shows a positive influence of lifestyle on purchasing decisions, both of which were studied before the Covid-19 pandemic occurred. [18] argue that lifestyle is a person's way of life, such as their daily activities, what people consider important, and their image of themselves and the world around them. This opinion is reinforced by [21, 22] who said market researchers who adopt a lifestyle tend to divide consumers based on their activities, interests and opinions.

People comply with government recommendations to stay at home during the pandemic, so people's shopping patterns have changed to online shopping. The reason for the increase in online shopping patterns is the increasing demand for grocery deliveries to the house. This means that lifestyle has a significant positive influence on purchasing decisions; thus, the hypothesis that there is an influence between lifestyle and purchasing decisions is supported.

Lifestyle is a pattern that describes the activities, interests and opinions of individuals interacting with the surrounding environment [21]. Activities are characteristic of consumers in their daily lives regarding what they do, what they buy, and how they spend their time. Interest focuses on consumers' preferences and priorities. Interest is a personal factor that influences decision-making processes. An opinion is the opinion of every consumer who comes from a person. The results of this study are relevant to Hawkins's theory which states that a person's lifestyle influences their needs, desires, and behaviour, including buying behaviour. In addition, previous research conducted by [23] regarding the influence of lifestyle, halal labels and prices on purchasing decisions for cosmetics, there is a positive and significant influence on purchasing decisions.

The Influence of Halal Awareness on Purchase Intention

Based on the results of the analysis of the variable halal awareness on buying interest, it is stated that halal awareness affect buying interest in food products in the new normal era in Indonesia is also different for the halal awareness variable, According to [11] which states that there is a positive influence of halal awareness on product purchasing decisions. Furthermore, [11, 24, 25] shows the variable halal awareness has no effect on *Gofood* consumers' buying decisions during the pandemic era. Someone with high halal awareness will ensure that what they consume is the best, according to [9, 24, 26, 27] from the ingredients to how to obtain it. In this study, halal awareness increase people's interest in food products in this new era.

It is important to know about products that follow Islamic law, but not enough to increase people's desire to buy food products, especially when all activities are carried out at home. Because halal is not only a matter of sharia needs but also about cleanliness and safety, consumers who care about safety and cleanliness can accept the products offered. The community believes that consuming non-halal products can have bad consequences, especially in Muslim communities [23].

The Influence of Lifestyle on Halal Awareness

From the analysis results, it can be determined that lifestyle influenced halal awareness in the new normal era. According to [7, 14, 15, 21, 28] whose results show that lifestyle has a positive effect on Halal awareness, and [18] which also shows a positive influence of lifestyle on Halal awareness, both of which were studied before the Covid-19 pandemic occurred. The lifestyle that can be seen from one's activities can be seen in the environment or groups that make a person buy certain items. In this study, the respondents' lifestyle is described as an environment in which they only buy a product they need. [15] stated that their attention was focused on efforts to stay healthy during the pandemic.

This means that lifestyle has a significant positive influence on purchasing decisions; thus, the hypothesis that there is an influence between lifestyle and purchasing decisions is supported. Lifestyle describes the activities, interests, and opinions of individuals who interact with the surrounding environment. Activities are consumers' daily life characteristics regarding what they do, what they buy and how they spend their time [21, 29, 30]. Interest focuses on consumers' preferences and priorities. Interest is a personal factor that influences decision-making processes. An opinion is the opinion of every consumer who comes from a person.

Influence of Lifestyle on Purchase Intention through Halal Awareness

This study showed that lifestyle and halal awareness simultaneously influence the intention to buy products. According to [23], lifestyle and halal labels simultaneously influence purchase intention. The halal label here is included in halal awareness because if there is a halal label on a product and people's buying interest increases, it means that people are aware of the importance of consumption according to halal provisions. According to [31, 32], argue that psychological factors play an important role in consumer purchasing decisions. This opinion is also in line with [33, 34] who argues that psychological factors influence financial decisions and markets. A halal lifestyle and awareness are quite influential in increasing people's interest in buying food products in this new normal era.

However, they are not the main factors that generate buying interest. The consumer's obligation to consume halal products is based on the halal awareness that every Muslim has. When the Muslim community realises that consuming halal products is important, it impacts their interest in buying them. Awareness of halal products influences consumer buying interest to consume products following Islamic teachings. Based on the results of the research above it is in line with what was stated by [23], which stated that halal awareness affects Muslim consumers' buying interest in halal products produced by producers. Halal awareness is an important factor that must be considered by Muslim consumers when buying products on the market. The results of other studies are in line

with those put forward by [35]; [36, 37] with the result that halal awareness has a positive and significant effect on interest in buying products.

The existence of halal awareness on purchasing intention decisions, based on the results of testing the hypothesis on the halal awareness variable on the decision to buy food and beverage packages, shows that halal awareness has a significant effect on the decision to repurchase packaged food and beverage products [9, 24]. Thus, halal awareness and knowledge of halal law and being selective in choosing packaged food and drinks to eat will affect everything that enters the body, whether what is consumed is halal or haram.

In conclusion, halal awareness significantly influenced the decision to repurchase packaged food and beverage products. The above research follows the theory of According to [11, 12, 38] states that halal awareness greatly influences people's buying interest and halal awareness affects the accreditation of the halal logo. Halal awareness plays an important role in determining purchase intentions. Judging from the indicators of buying interest in halal awareness, that is, if consumers understand the importance of the halal concept more, they will try to find information about these products.

5 Conclusion

From the results of this study, it can be concluded that lifestyle affect the intention to buy food products during the new normal era. Second, halal awareness affect the interest in buying food products in the new normal era. This study's results have several implications. First, the results of this study contribute to the literature in the field of Islamic economics. Second, by understanding the lifestyle taught in Islam, people can become wiser in managing their economy, especially during the current pandemic. Third, it can add insight to business actors, especially those engaged in the fashion sector, to innovate and create strategies to increase public interest in food products according to the current conditions.

This research can be used as an example and material for correction in subsequent research. Moreover, it is hoped that further researchers can identify other factors that influence people's buying interests and add different variables. The study results showed that halal awareness influences people's interest in cake products that are not yet halal certified. The managerial implications of this research are as follows: (1) The need to provide correct and honest information on cake products traded to consumers before the issuance of a halal certificate as a form of concern for Muslim consumers. Many Muslim consumers positively perceive the halal of a product even though they know it is forbidden to consume non-halal products. (2) As a form of consumer protection, the government should strengthen the Halal Product Guarantee Law, which will take effect in 2019, because many industries still do not respond positively to halal certification.

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A Comparative Financial Analysis Between Islamic and Conventional Financial Institutions in Kuwait

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Abstract. This study evaluates the performance of Kuwaiti Islamic Financial Institutions (KIFIs) between 2000 and 2020 in the light of their conventional counterparts (KCFIs) using their daily stock prices. A causal-comparative research design was utilized to evaluate the performances before, during and after the 2007/08 financial crisis as well as during the COVID-19 pandemic. The study established that there was a statistically significant difference between their mean performances before the crisis. However, it did not establish a statistically significant difference between their performances during and after the crisis as well as during the COVID-19 pandemic. The results suggest that the Islamic indexes are highly screened; thus, becoming very close to socially responsible investment. The study is among the first ones to be conducted in Kuwaiti; hence, bridges a knowledge gap in Kuwaiti.

Keywords: Islamic · Conventional · Kuwait · KIFIs · KCFIs

1 Introduction

The use of the Capital Assets Pricing Model (CAPM) in evaluating the performance of stocks has received much attention over the years due to its immense contribution to the finance and related disciplines (Alrabadi & Alrabadi, 2018). However, the model is criticized for its unrealistic assumptions, which include single investment period, an efficient market with free flow of information which is readily available to investors at no cost, and ability to borrow and lend unrestricted amounts under risk free interest rates. Accordingly, the Fama and French 3-factor model, Fama and French 5 factor, and Carhart four factors model have been developed to overcome the CAPM's shortcomings. The Fama and French 3-factor model adds two more variables in the analysis of stock performance. Fama and French (1996) claim that the additional variables take care of the anomalies in stock performance not explained by CAPM.

The Carhart 4 factor model adds momentum to the Fama and French 3-factor model to account for the anomalies not accounted by the 3-factor model whereas the Fama and French 5-factor model adds two more variables to take care of the aforementioned

models' shortcomings (Fama & French, 2017). In spite of this, evidence suggests that most of the models are widely utilized to evaluate the performance of stock markets in developed countries and rarely applied to emerging markets. Accordingly, although different models have been developed and utilized in different scenarios to determine stock performance, very little has been done to compare the performance of Kuwait Islamic Financial Institutions (KIFIs) with the performance of Kuwait Conventional Financial Institutions (KCFIs). Additionally, very little has been done to evaluate the influence of the 2007/08 financial and COVID-19 pandemic on the performance of stocks for both types of institutions.

Tatiana, Igor, and Liliya (2015) define Islamic Financial Institutions (IFIs) as the organizations that offer financial products and services based on Shari'ah law and business practices. They claim that contrary to conventional financial institutions that charge interests on most of their products, IFIs do not charge interests, but they encourage business owners and investors to share profits and losses and prohibit speculative business practices. They add that IFIs prohibit uncertainty in contractual relationships thereby require parties to disclose information and intentions to each other (Tatiana, Igor, & Liliya, 2015). Islamic business practices further discourage uncertain business practices such as betting, doubtful products and services, gambling and haram products (Azmi, 2014). The Islamic business practices are practiced in over 50 countries in the world and that their total assets are more than \$ 1 trillion (Tatiana, Igor, & Liliya, 2015); hence, the need to compare the performance of their stocks with the performance of their conventional counterparts.

Ibrahim and Ismail (2015) claim that Conventional Financial Institutions (CFIs) are focused on maximizing profits thereby charge interests on most of their products, engage in speculative business practices and do not share risks with investors. Additionally, in contrast to IFIs that discourage uncertainty in contractual relationships, conventional business practices are silent on the use of asymmetric information; as such, most of the CFIs thrive in the use of asymmetric information. Although some of the Islamic states in the world such as Sudan and Iran have over the years Islamized most of their financial institutions especially bank, some of them such as Kuwait allow the members of the public to engage in both Islamic and conventional business practices (Alharbi, 2015). Additionally, due to presumption that Islamic institutions were not influenced negatively by the 2007/08 financial crisis and the fact that Islam has spread to other parts of the world, other governments in the world have over the years authorized Islamic institutions to operate in their countries (Alatassi & Letza, 2018).

The present study seeks to compare the performance of KIFIs' stocks with the performance of KCFIs' stock for the period between 2000 and 2020 using different models. Additionally, it seeks to evaluate the influence of the 2007/08 financial crisis and COVID-19 pandemic on the stocks' performances for both types of institutions.

2 Literature Review

A quick overview of the existing studies shows that different models are utilized to evaluate stock performance. Alrabadi and Alrabadi (2018) identify the CAPM as among the oldest models for evaluating and explaining stock performance. They claim that although

the model has contributed incalculably to the development of the finance discipline, the model bases its arguments and analysis on unrealistic assumptions (Alrabadi & Alrabadi, 2018). Some of those assumptions include single investment period, an efficient market with free flow of information which is readily available to investors at no cost, and ability to borrow and lend unrestricted amounts under risk free interest rates.

While the CAPM bases stock performance on market beta, studies conducted over the years have demonstrated that the cross-sectional deviations in stock performance cannot be based on market beta alone. Banz (1981) identifies stock size as an important attribute in explaining stock performance. Chan, Hamao and Lakonishok (1991) identify book-to-market value as important element to explaining stock performance whereas Basu (1983) identify price to earnings ratio and macroeconomic variables as important elements to explaining variations in stocks' expected returns.

The Fama and French 3 factor model was developed as a refinement of the CAPM; hence, it was able to explain the changes in stock performances that were not explained by CAPM. Fama and French (1996) claim that the 3-factor model captures the incongruities in CAPM because they are related. The implication is that the 3-factor model does not lose important information about stock performances. Nonetheless, evidence shows that stock performance is influenced by a variety of factors implying that the 3-factor model may not necessarily capture comprehensive information about stock performance. Additionally, Alrabadi and Alrabadi (2018) state that there lacks a universally agreed model for explaining stock returns; hence, it would be illogical to identify the Fama and French 3-factor model as the most efficient model for explaining stock performance. Bhatt and Rajaram (2014) accuse the Fama and French 3-factor model of relying heavily on value premium, which is sample specific and unlikely to occur in future returns. They also link the model's higher explanatory power to errors in beta measurement and survivorship bias (Bhatt & Rajaram, 2014). This suggests that the 3-factor model may not necessarily be an efficient model for explaining stock performance.

The Carhart (1997) model broadens the Fama and French 3-factor model by adding momentum on stock performance. The momentum measures the variation between the losses made in the past and the gains thereof. Doing so helps to predict the likelihood of a stock to continue on a certain path. El Khamlichi, Arouri and Teulon (2014) suggest that the momentum helps to determine stocks' persistence in a given path. The current study thereby utilizes the Carhart (1997) model to determine the extent to which stock performance for both KIFIs and KCFIs persist in a given path.

The Fama and French 5 factor model was developed as a result of the former models to explain stock performance in totality. In contrast to the other models, the model adds profitability and investment in its analysis. Evidence suggests that the 5-factor model is far much better than the 3-factor model (Fama & French, 2015; Fama & French, 2017). In view of this, the current study compares and contrasts the application of the above models to the Kuwaiti stock market by comparing the performance of the KIFIs with the performance of their conventional counterparts.

3 Empirical Studies

Blanco (2012) compared the efficacy of Fama and French 3-factor model and CAPM in portfolio selection for the American NYSE market between 1926 and 2006. The study established that although the results varied depending on the method utilized to form the portfolio, the 3-factor model performed relatively better than CAPM in explaining the portfolios' returns.

Daniel and Titman (1996) did not identify the 3-factor model as able to explicate variations in stock returns for NASDAQ, AMEX and NYSE between 1963 and 1993. However, Davis, Fama and French (2000) on extending the study's period to between 1929 and 1997 identified the model as able to explain stocks' returns; hence, contradicted Daniel and Titman's (1996) findings. Connor and Sehgal (2001) applied the 3-factor model to the Indian stock market and identified it as applicable to the Indian market. Ajili (2003) applied the model to the French stock market between 1976 and 2001 and identified it as applicable to the market in explaining stocks' returns. Gokgoz (2007) also finds the 3-factor model as applicable to the Turkish stock market.

Dolinar (2013) evaluated the effectiveness of the 3-factor model in determining stock returns for the Croatian stock market. The study established that the model was valid because it explained variation in stocks' returns better than the CAPM. Nonetheless, the study warned that care should be taken while applying the model to emerging markets because such markets have their own challenges that should be considered in the analysis.

Hossan and Abedin (2019) evaluated the applicability of the Carhart 4 factor model to the Bangladeshi stock market. Using the stocks' monthly returns, the study established that the market risk return factor was positively related to the stocks' returns whereas SMB was positively related to returns for small size portfolios. Nonetheless, the HML was negatively related to stocks' returns except for the big portfolios. The study also established that the momentum effect was positively related to small, big and up return portfolios. Evbayiro-Osagie and Osamwonyi (2017) compared the applicability of the Fama and French 3-factor model with the Carhart 4 factor model to the Nigerian stock market in determining stocks' returns. With the help of a sample of 139 stocks, the study established that both models were applicable to the Nigerian stock market even though the Carhart 4 factor model produced better results than the 3-factor model. This suggests that a model with more variables may be better than the one with fewer variables.

Tai (2003) compared the effectiveness of the Carhart 4 factor model with that of the 3-factor model. Using monthly data from NASDAQ, AMEX and NYSE for between 1953 and 2000, the study identified the Carhart 4 factor model as more effective than the 3-factor one in explaining stocks' returns. Similarly, Bello (2008) identified the Carhart 4 factor model as more effective than the 3-factor one and CAPM suggesting that the refined models are better than the unrefined ones.

Fama and French (2015) compared the effectiveness of Fama and French 5-factor model with its 3-factor counterpart in determining stock performance. They established that the 5-factor model was more effective in determining stock performance than the 3-factor model. However, they identified the 5-factor model as unable to capture small stocks' low average returns whose returns behaved like those of the firms that invested heavily despite earning low profits. Additionally, the 5-factor model was identified as insensitive to the way its factors were defined. Similarly, the 3-factor model was identified

as redundant in explicating average returns when investment and profitability factors were added to the model. This suggests that each of the models has its weaknesses despite overcoming challenges associated with CAPM in explaining stock performance.

Fama and French (2017) evaluated the effectiveness of the 5-factor model in determining average stock returns for the Asia Pacific, European and North American markets. They established that the stocks' average returns increased with profitability and book-to-market ratio but decreased with increase in investment. For the Japanese stocks, the link between book-to-market ratio and average returns was strong even though returns were barely related to investment and profitability. This suggests that stock performance may vary from one market to the other; hence, the need to evaluate the performance of the Kuwaiti market. In spite of this, the 5-factor model was identified as unable to capture small stocks' average returns as it was identified in the Fama and French (2015) study.

Using Amman Stock Exchange as a case study, Alrabadi and Alrabadi (2018) evaluated the effectiveness of the 5-factor model in determining stock performance. The study established that the model's five variables had statistically significant influence on the performance of the stocks included in the analysis. Nonetheless, the model was not able to explain the stock performance between 2011 and 2015. The study attributed the significant findings to the nature of the stock market claiming that it was influenced by other factors other than the fundamental ones.

4 Effects of the Crisis on Stock Performance

Ali and Afzal (2012) compared the effect of the crisis on Pakistani stock market with its Indian counterpart. Using EGARCH model, they established that the crisis impacted the stocks' returns for the two markets negatively, but the Indian market was impacted more than the Pakistani one. Adeyeye, Aluko and Migiyo (2018) evaluated the impact of the crisis on the Nigerian stock market. Using the EGARCH model, they established that the crisis reduced the stocks' prices significantly, but its influence on price volatility was relatively insignificant. Njiforti (2015) also evaluated the impact of the crisis on the Nigerian stock market. Using the vector error correction model, he found that the crisis impacted the market both in the short-run and long-run.

Hasan and Dridi (2010) evaluated the effects of the 2007 crisis on the performance of Islamic and conventional banks. The study established that even if flaws in risk management in certain Islamic Banks (IBs) reduced their profitability in 2009 more than they did to Conventional Banks (CBs), asset and credit growth for IBs performed better than the conventional ones in 2008 and 2009. The study concluded that the IBs' business model minimized the negative effects of the crisis on IBs whereas CBs' business model exposed them to the crisis. For this reason, it is possible that the CBs' business model that involves charging interests on bank loans and other products exposed CBs to the crisis whereas the IBs' model protected them from the crisis. Additionally, it is possible that the use of asymmetric information in conventional business practices exposed CBs to the crisis as well.

In a similar study, Usman and Khan (2012) evaluated the performance of Pakistani Islamic banks in the light of their conventional counterparts between 2007 and 2009.

Using a sample of 3 Islamic and 3 conventional banks, the study identified IBs as more profitable, more liquid and enjoying higher growth rates than conventional banks suggesting that CBs were impacted more by the crisis than IBs were impacted by it. Accordingly, it is possible that the Kuwaiti CFIs were impacted negatively by the crisis whereas their Islamic counterparts were not impacted negatively by it.

Jaffar and Manarvi (2011) compared the performance of Pakistani Islamic banks with the performance of their conventional counterparts between 2005 and 2009. Using the CAMEL test, the study established that whereas IBs performed better than CBs in areas related to liquidity and capital, the CBs outperformed IBs in areas related to earnings and management quality. Nevertheless, the asset quality for both types of banks did not differ significantly from each suggesting that they were relatively the same. In spite of this, the CBs had smaller loan loss ratios than IBs suggesting that they had improved their loan recovery processes than IBs had done. This suggests that both types of banks were impacted relatively the same by the crisis implying that the IBs' business model did not protect them from the crisis. Similarly, it implies that the CBs' business model did not expose the Pakistani CBs to the crisis.

Onakoya and Onakoya (2013) compared the performance of UK-based conventional banks with the performance of their Islamic counterparts between 2007 and 2011. Using a sample of 5 conventional and 4 Islamic banks, the study did not establish any significance difference between the banks' performance and business orientation in areas related to risk, solvency, efficiency, profitability and liquidity. However, conventional banks were identified as more profitable and meeting financial obligations on time than Islamic banks. In spite of this, the study established that IBs were cost-effective and less exposed to liquidity risk than CBs. The study recommended that differentiation, innovation and broadening of finance management skills would strengthen Shari'ah-compliant products; thus, improve the performance of IBs. This suggests that although the IBs' business model is effective at protecting IBs from business risks, it impacts negatively their performances.

5 Effect of the COVID-19 Pandemic on Stock Performance

Kotishwar (2020) evaluated the impact of the pandemic on six different countries. Using the Cumulative Average Abnormal Returns (CAAR) model, they found that the indices' returns for the countries included in the analysis reacted to the pandemic more towards the end of the study period than they reacted to it at the start of the pandemic. Machmuddah et al (2020) evaluated the Indonesian stock market's rejoinder to the pandemic using evidence from customer goods sector. They established a statistically significant difference between the sector's daily closing stock prices before and after the pandemic. Additionally, they established a similar difference between the volumes of stocks traded before and after the pandemic showing that the pandemic had negative impact on stock performance.

Liu et al (2020) evaluated the impact of the pandemic on 21 leading stock markets. With the help of even study method, they found that the stock markets for the major countries were heavily impacted by the pandemic outbreak. Additionally, they found that the Asian countries were impacted more by the crisis than other countries. Bahraini

and Filfilan (2020) evaluated the impact of the pandemic on stock markets' returns from the GCC countries. With the help of panel data regression method, they found that the returns for the stock markets were impacted negatively by the pandemic; hence, they declined as the number of deaths increased daily. Sansa (2020) found that the pandemic had notable negative effects on the US and Chinese financial markets.

6 Emerging Issues

Although different models for evaluating stock performance have been developed, Alrabadi and Alrabadi (2018) claim that there lacks a universally agreed model for explaining stock performance. This is in relation to the fact that although the 3-factor model has been identified as able to explain stock performance better than CAPM, the model has been linked to several limitations, which hinder its effectiveness. Similarly, although the Carhart (1997) model has been identified as more effective than the 3-factor one, the Fama and French 5-factor model has been developed as a result of the failure of the previous models to explain stock performance in totality. Furthermore, although the 5-factor model is among the most effective models in explaining stock performance, the model has been linked to several limitations. Alongside the above, the review demonstrated that most of models have been applied to developed economies and rarely applied to emerging economies. More importantly, the review established that the stock performance has been influenced by additional factors such as COVID-19 and 2007/08 financial crisis between 2000 and 2020.

While the above is the case, the importance of an effective model for evaluating stock performances remains paramount to every economy in the world. It enables investors to make informed decisions as they make investment-related decisions (Al-Afeef, 2017). It also contributes to development of finance and related disciplines among other things (Alrabadi & Alrabadi, 2018). The current study thereby was conducted to determine the best model that could explain the performance of Kuwaiti Islamic Financial Institutions in comparison to their conventional counterparts. Additionally, it was conducted to evaluate the influence of the 2007/08 financial crisis and COVID-19 pandemic on the institutions' stock performances. Its specific objectives included;

1. Critically evaluating the stock performance for KIFIs between 2000 and 2020 in the light of the performance of their conventional counterparts
2. Appraising the impact of the 2007/08 financial crisis on the stock performance for Kuwaiti financial institutions before, during and after the crisis
3. Assessing the impact of the COVID-19 pandemic on Kuwaiti financial institutions by comparing the stock performance for KIFIs with the performance for KCFIs
4. Critically appraising the performance of KIFIs in the light of their conventional counterparts (KCFIs)

Consistent with previous findings, the study hypothesizes that the Fama and French 5-factor model is the most efficient model for explain stock performance for the Kuwaiti financial institutions. Additionally, it hypothesizes that both COVID-19 pandemic and the 2007/08 financial crisis have notable effects on the performances for both types of institutions. Furthermore, it hypothesizes that the performance of KIFIs is close to socially responsible investment contrary to the performance of KCFIs.

7 Conceptual Framework

Figure 1 provides the study's conceptual framework that depicts the interaction of the variables included in the study. The study's independent variables include COVID-19 pandemic and the 2007 financial crisis whereas the dependent variable is the stocks' returns for the institutions included in the analysis. The study presumes that the stocks' returns for the institutions included in the analysis are influenced by COVID-19 pandemic and the 2007 financial crisis whereas both COVID-19 pandemic and the 2007 financial crisis are not influenced by the stocks' returns. Accordingly, it seeks to evaluate the influence of each variable on the stock performances for Kuwaiti financial institutions.

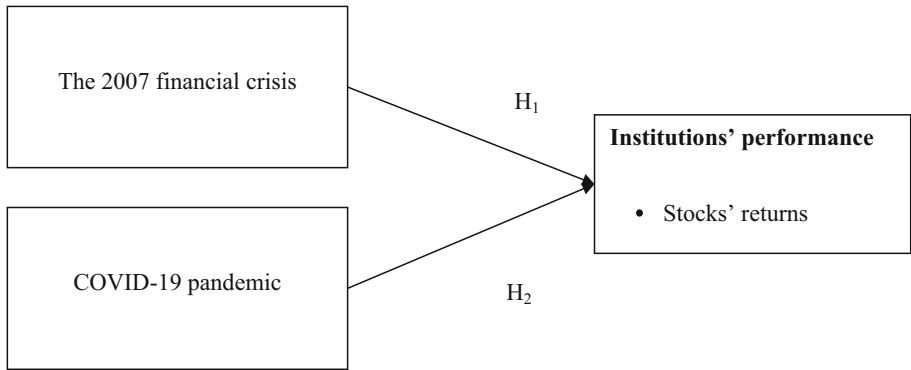


Fig. 1. The study's conceptual framework. Source: The Researcher, 2021

8 Study's Hypotheses

The study hypothesizes that the stock performances for both types of financial institutions are influenced by COVID-19 and the 2007 financial crisis. By presuming so, it attempts to evaluate if the difference between the stock performances for both types of institutions is statistically different from each other. In line with studies that do not establish any statistically significant difference on the performance of both Islamic and conventional financial institutions, the present study presumes that the performance of both KIFIs and KCFIs was not statistically different from each other between 2000 and 2006.

9 Research Methodology

9.1 Research Design

Salkind (2010) defines a causal-comparative design as the one that evaluates the link between independent and dependent variables after an event occurs with a view to determine the influence of independent variables on the outcome. In line with this, a causal-comparative research design was utilized to compare the stock performance for the KIFIs and KCFIs using their daily stock prices for the period between 2000 and 2020 because the event had already occurred. The design was also utilized to determine the influence of the COVID-19 pandemic and 2007/08 financial crisis on their stock performances because the events had already occurred.

The design entailed evaluating the way the performance for both types of institutions compared with each other. Also, it entailed evaluating the way the 2007/08 financial crisis and COVID-19 influenced or did not influence the performance of Kuwaiti Islamic and conventional financial institutions between 2000 and 2020. The 2007 financial crisis and COVID-19 were the independent variables whereas stock prices for the Kuwaiti institutions included in the analysis were the dependent variable. The study presumed that the stock prices for the institutions were influenced by the two factors; hence, the analysis was intended to evaluate the extent to which both variables influenced or did not influence the stock performances. In addition, it entailed evaluating the extent to which the variables included in the models utilized throughout the study could explain the stock performances for both types of institutions.

The design was preferred over other designs because the 2007 financial crisis and partly COVID-19 had already occurred. Accordingly, by conducting the study, the researcher intended to determine the extent to which the two independent variables (the 2007 financial crisis and COVID-19) influenced or did not influence the stock performance for the Kuwaiti financial institutions included in the analysis. Additionally, the design was preferred because the independent variables could not be manipulated in any way to determine their influence on the performance of Kuwaiti financial institutions. More importantly, the financial institutions included in the analysis were already assigned into their respective groups (Islamic or conventional); hence, they could not be randomly assigned into the groups as it happens in the experiment design. In the light of this, the causal-comparative design was preferred over other designs because of its viability and impracticability of other designs.

9.2 Target Population

The study's target population was Kuwaiti Islamic and conventional financial institutions. Accordingly, other institutions that did not engage in financial services were excluded from the population. The Islamic financial institutions offered Sharia-compliant products and services whereas the conventional ones offered financial products and services that were not compliant with Sharia business practices. The study hypothesized that the differences in their business practices would influence the performance of their stock prices and that both COVID-19 and 2007/08 financial crisis could influence their performances differently. Accordingly, it compared their stock price performances between

2000 and 2020. Additionally, it evaluated the influence of the 2007/08 financial and COVID-19 pandemic on their performances.

9.3 Sample

A sample of 30 institutions (14 Islamic and 16 conventional) was selected randomly from the target population and included in the analysis. The sampling process entailed selecting the institutions in the target population randomly and including them in the analysis so long as they were listed on the Kuwaiti stock exchange. Additionally, it entailed selecting them so long as they were in the database(s) that provided the historical stock prices.

9.4 Data Collection

The current study was quantitative in nature. It collected stocks' daily prices from Thomas Reuter and investing.com and utilized it to compare the performance of both types of firms. The data collection process entailed visiting the secondary data sources (Thomas Reuter and investing.com), typing the names of the institutions included in the study and retrieving their daily stock prices for the period between 2000 and 2020 using the Excel spreadsheet. The data from both sources was compared with each other to determine that it corresponded with each other; hence, accurate for data analysis and making investment decisions. Upon confirming that the data was accurate by comparing it, the data obtained from investing.com was analyzed appropriately to depict critically the performance of both types of institutions and the impact of both the 2007/08 financial crisis and COVID-19 on the performance of their stock prices. The Kuwaiti institutions in the target population that did not publish their stock prices on the database were excluded from the analysis.

9.5 Data Analysis

The Jarque Berra test was utilized to assess the normality assumption and the data was found to be normal. Although this was an uncommon phenomenon in stock prices, it was in agreement with Kumar and Dhankar (2011) who found the annual and monthly returns for the Indian stocks to be normally distributed between 1996 and 2006. For this reason, parametric tests were utilized to analyze the data. The Excel spreadsheet was utilized to analyze the data.

The data analysis process entailed using the stock daily prices to calculate the stocks' returns and using the various models to determine the way the stocks performed between 2000 and 2020. The independent sample t test was utilized to compare the performance for KIFIs with that for KCFIs for the period between 2000 and 2020. The process entailed comparing the way they performed throughout the entire period, breaking down the period into pre-crisis, during the crisis and post-crisis and determining whether the performances for both types of institutions were statistically different from each other or not. A 5 percent significance level was utilized to test the study's hypotheses. The decision rule was that a statistically significant influence was determined for p-values less than or equal to 0.05.

Alongside the above, the Sharpe ratio and Treynor ratio were utilized to compare the performance of both financial institution before the Fama French 3-factor model was utilized to determine the influence of market return, High minus Low (HML) stock, and Small Minus Big (SMB) stock on the performance of the firms’ stock prices. The Carhart 4 factor model was also conducted to determine the influence of the market return, HML, momentum, and SMB on the performance of the firms’ stock prices. Moreover, the Fama French 5-factor model was conducted to determine the influence of the market return, HML, Conservative Minus Aggressive (CMA), Robust Minus Weak (RMW) and SMB on the performance of the firms’ stock prices. The RMW variable evaluated the influence of firms’ profitability on stock performance whereas the CMA variable evaluated the influence of investment on stocks’ performance (Fama& French, 2017). The study hypothesized that each of the variable had substantial influence on the stock performances.

10 Results

10.1 Descriptive Statistics

A total of 30 institutions (14 Islamic and 16 conventional) were included in the analysis. The normality assumption for both sets of institutions was evaluated using the Jerque Berra test with no violation noted as Figs. 2 and 3 depict. Accordingly, the independent sample t test was utilized to compare the performance for both types of institutions.

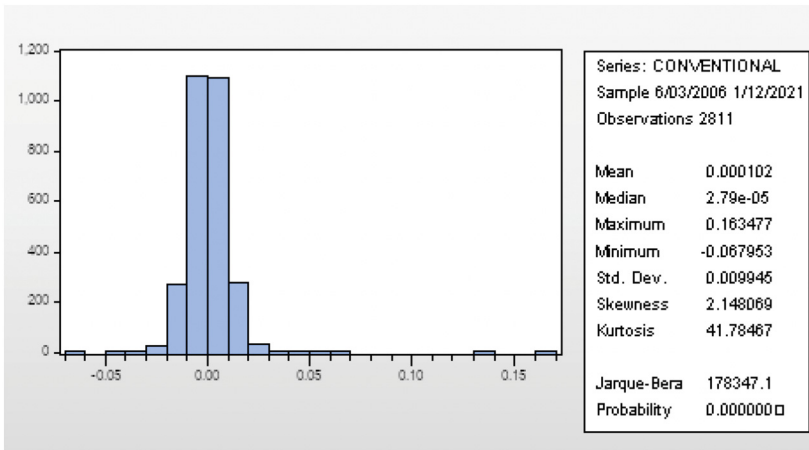


Fig. 2. The Jarque Berra normality test for conventional institutions

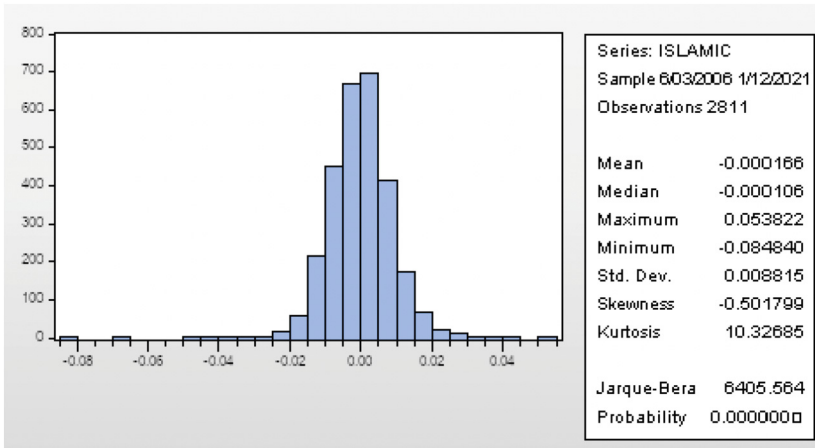


Fig. 3. The Jarque Berra normality test for Islamic institutions

A total of 2811 observations for each type of institution were included in the analysis. Table 1 provides the descriptive statistics for each of the institution.

Table 1. The variables' descriptive statistics

	ISLAMIC	CONVENTIONAL
Mean	-0.000166	0.000102
Median	-0.000106	2.79E-05
Maximum	0.053822	0.163477
Minimum	-0.084840	-0.067953
Std. Dev.	0.008815	0.009945
Skewness	-0.501799	2.148069
Kurtosis	10.32685	41.78467
Jarque-Bera	6405.564	178347.1
Probability	0.000000	0.000000
Sum	-0.466939	0.286003
Sum sq. Dev.	0.218350	0.277923
Observations	2811	2811

Table 2 provides the overall Treynor and Sharp ratios for both types of institutions including their market returns.

Table 2. The KIFIs' and KCFIs' Treynor and Sharp ratios

Overall ratios			
	Islamic	Conventional	Market return
Average return	-0.02%	0.01%	0.00%
Standard deviation	0.88%	1.00%	1.54%
Beta	0.0156	0.0350	1.0000
Risk free rate	0.05%	0.05%	0.05%
Sharpe ratio	(0.08)	(0.04)	(0.03)
Treynor ratio	-0.0438	-0.0119	-0.0005
Before the crisis			
	Islamic	Conventional	Market return
Average return	-0.0796%	0.0412%	0.1207%
Standard deviation	0.8255%	0.7650%	1.6649%
Beta	0.0127	0.0043	1.0000
Risk free rate	0.0500%	0.0500%	0.0500%
Sharpe ratio	(0.1571)	(0.0115)	0.0425
Treynor ratio	(0.1017)	(0.0203)	0.0007
During the crisis			
	Islamic	Conventional	Market return
Average return	-0.0771%	-0.0848%	-0.2243%
Standard deviation	0.8723%	0.7235%	2.9920%
Beta	0.0275	0.0275	1.0000
Risk free rate	0.0500%	0.0500%	0.0500%
Sharpe ratio	(0.1458)	(0.1864)	(0.0917)
Treynor ratio	(0.0462)	(0.0491)	(0.0027)
After the crisis			
	Islamic	Conventional	Market return
Average return	0.04%	0.06%	0.04%
Standard deviation	0.82%	0.97%	1.01%
Beta	0.0117	0.0711	1.0000
Risk free rate	0.05%	0.05%	0.05%
Sharpe ratio	(0.01)	0.01	(0.01)
Treynor ratio	-0.0093	0.0015	-0.0001

11 Inferential Statistics

11.1 Before the 2007/08 Financial

A t test, $\alpha = 0.05$, was conducted to assess the performance of the stocks for both types of institutions before the 2007/08 financial crisis. The performance of both types of institutions was statistically different from each other at $p < 0.05$ level: $t(371) = 1.966$, $p = 0.05$ (two-tailed).

11.2 During the Crisis

The study, however, did not establish any statistically significant difference between their performances during the crisis at $p < 0.05$ level: $t(271) = 1.969$, $p = 0.908$ (two-tailed).

11.3 Performance Post Crisis

Similarly, it did not find any statistically significant difference between their performances post crisis at $p < 0.05$ level: $t(977) = 1.962$, $p = 0.581$ (two-tailed).

11.4 Performance During the COVID-19 Pandemic

Furthermore, the study did not establish any statistically significant difference between the performance of the stock prices for KCFIs and KIFIs during the COVID-19 at $p < 0.05$ level: $t(185) = 1.973$, $p = 0.640$ (two-tailed).

11.5 Single Factor Model/CAPM

The single factor model test was conducted to evaluate the influence of market beta on the firms' stock performances. Table 3 shows that the influence of the market beta had statistically significant influence on the performance of KCFIs, but not the performance of KIFIs.

11.6 The Fama French 3-Factor Model

The Fama French 3-factor model was conducted to determine the influence of the market return, HML and SMB on the performance of the firms' stock prices. Table 3 shows that the market return had a statistically significant influence on the performance of KCFIs at $p < 0.05$ level: $t(2781) = 2.829$, $p = 0.0047$ (two-tailed). However, none of the three factors (market return, HML and SMB) had any statistically significant influence on the performance of the KIFIs at $p < 0.05$ because their probabilities were greater than 0.05.

11.7 The Carhart 4 Factor Model

The Carhart 4 factor model was also conducted to determine the influence of the market return, HML, momentum, and SMB on the performance of the firms' stock prices. Like in the above case, Table 3 shows that the market return had statistically significant influence on the performance of KCFIs at $p < 0.05$ level: $t(2781) = 2.861$, $p = 0.0043$ (two-tailed). Nonetheless, none of the four variables had any statistically significant influence on the performance of KIFIs at $p < 0.05$ because their probabilities were greater than 0.05.

11.8 The Fama French 5-Factor Model

The Fama French 5-factor model was further conducted to determine the influence of the market return, HML, CMA, RMW and SMB on the performance of the firms' stock prices. Table 3 shows that the market return had a statistically significant influence on the performance of KCFIs at $p < 0.05$ level: $t(2781) = 2.8287$, $p = 0.0047$ (two-tailed). Similarly, it depicts that RMW had a statistically significant influence on the performance of KIFIs at $p < 0.05$ level: $t(2781) = 2.517$, $p = 0.0119$ (two-tailed).

Table 3. The models' results for both KIFIs and KCFIs

	Single factor model		Fama-French 3 factor model		Carhart 4 factor model		Fama-French 5 factor model	
	KCFIs	KIFIs	KCFIs	KIFIs	KCFIs	KIFIs	KCFIs	KIFIs
α	0.000101	-0.000167	8.11E-05	-0.000185	8.13E-05	-0.000185	8.06E-05	-0.000192
β_{mkt}	0.034898*	0.015488	0.034728*	0.015434	0.035124*	0.015434	0.034746*	0.015215
B _{SMB} (size)	-	-	-0.000372	-8.49E-05	-0.000437	-8.49E-05	-0.000356	0.000146
B _{HML} (value)	-	-	-9.25E-05	-0.000111	-0.000356	-0.000111	-856E-05	-0.000301
B _{UMD} (MOM)	-	-	-	-	-0.000350	-0.00012	-	-
B _{RMV} (profitability)	-	-	-	-	-	-	0.000116	0.001184*
B _{CMA} (investment)	-	-	-	-	-	-	-5.19E-05	0.000487
R ²	0.002902	0.000728	0.003505	0.000866	0.004159	0.000866	0.003524	0.003457
Adjusted R ²	0.002547	0.000372	0.002429	-0.000213	0.002724	-0.000213	0.001728	0.001661
F-stat	8.175028	2.045114	3.256097	0.802243	2.898195	0.802243	1.962556	1.925017

12 Discussion

The current study sought to compare the performance of the Kuwait Islamic Financial Institutions (KIFIs) with the performance of Kuwait Conventional Financial Institutions (KCFIs) using their daily stock prices for the period between 2000 and 2020. Consistent with previous findings, it hypothesized that the performance of the two types of institutions would be statistically different from each other before, during and after the crisis as well as during the COVID-19 pandemic. As expected, the study established a statistically significant difference between their mean performances before the crisis. However, it did not establish a statistically significant difference between their performances during and after the crisis as well as during the COVID-19 pandemic. The findings were in disagreement with Hasan and Dridi (2010) that identified Islamic and conventional banks performing relatively differently from each other during the crisis. Additionally, the results were in disagreement with Usman and Khan (2012) and Jaffar and Manarvi (2011) who identified both types of institutions as performing differently from each other during the crisis. The results suggest that the performance for both KCFIs and KIFIs was impacted differently by the financial crisis.

To explain the possible differences in the stock performances, the Sharpe ratio, Treynor ratio, Fama French 3 factor, Fama French 5 factor, and Carhart four factors

model tests were conducted. The Sharpe ratio analysis established that the KCFIs had relatively higher Sharpe ratio than the KIFIs suggesting that their stocks performed relatively better than the KIFIs'. The Treynor ratio analysis also established that the KCFIs had relatively higher Treynor ratio than the KIFIs suggesting that their stocks performed relatively better than the KIFIs'. The single factor regression model analysis identified market returns as having substantial influence on the performance of the KCFIs, but not on the KIFIs. The findings were in agreement with Coffie and Chukwulobelu (2013) who identified the model as able to explain the performance for the Ghanaian stocks. Nonetheless, due to the model's failure to explain various variations in stock performance, the Fama and French 3-factor model analysis was conducted to explain the performance for the KIFIs' stocks.

The Fama and French 3-factor model established that the market return had a statistically significant influence on the performance of KCFIs' stock prices, but not on the performance of the KIFIs. Given that none of the three variables (market return, HML and SMB) from the model had any statistically significant influence on the performance of KIFIs' stock prices, the model was identified as not contributing much to explaining the performance of KIFIs and KCFIs in the current study. In spite of this, the findings were in agreement with Daniel and Titman (1996) who did not identify the model as able to explain variations in stock returns for NASDAQ, AMEX and NYSE between 1963 and 1993. The results suggest that the 3-factor model may not be effective at explaining stock performance for the Kuwaiti stock market despite identifying market return as influencing the performance for KCFIs. The findings, however, were in disagreement with Dolinar (2013) who identified the model as effective in explaining variations in the Croatian stocks' returns. Additionally, they were in disagreement with Davis, Fama and French (2000), Connor and Sehgal (2001), Ajili (2003) and Gokgoz (2007) who identified the model as applicable to various stock markets. The findings were also in disagreement with Blanco (2012) who identified the Fama and French 3-factor model as more effective than CAPM in explaining the performance of portfolios selected from the American NYSE market between 1926 and 2006.

The Carhart 4 factor model also identified market return risk factor as having substantial influence on the performance of the KCFIs' stocks. Nonetheless, it did not establish such influence on the performance of KIFIs' stocks suggesting that none of the model's four variables (market return, momentum, HML and SMB) had any influence on the performance of the KIFIs' stocks. This was in disagreement with Bello (2008) who identified the model as more effective than the CAPM and 3-factor models in explaining stock performance. Additionally, it was in disagreement with Tai (2003), Evbayiro-Osagie and Osamwonyi (2017) and Hossan and Abedin (2019) who identified the Carhart 4 factor model as more efficient than the 3-factor model in explaining stock performance. The results suggested that momentum, HML and SMB did not influence the performance of the Kuwaiti stock market. Although the model was able to identify the influence of market return to the performance of KCFIs, it did not contribute significantly to the study's findings; as such, the Fama and French 5-factor model was applied to the analysis.

The Fama and French 5-factor model also identified market return risk factor as having notable influence on the stocks' performance for KCFIs. Similarly, it identified RMW as having notable influence on the stocks' performance for KIFIs. Although the study did not establish the other variables (CMA, HML and SMB) as influencing the performance of the KCFIs and KIFIs, it at least identified market return risk factor and RMW as influencing them. The findings were in agreement with Alrabadi and Alrabadi (2018) who identified the model as showing a statistically significant relationship between stocks' return and the five variables included in the model. The findings were also in agreement with Fama and French (2015) who identified the 5-factor model as more effective than the 3-factor one in explaining stock performance. Furthermore, they were in agreement with Fama and French (2017) who identified the 5-factor model as able to explain the performance of stocks in various markets more than the 3-factor model. In the light of this, the study identified the Fama and French 5-factor model as the most efficient model for explaining the performance of Kuwaiti stock market. Additionally, it identified the model as the most efficient one for comparing the performance of KIFIs with the performance of KCFIs.

12.1 Effects of the COVID-19

Despite identifying market return as influencing the performance of KCFIs and RMW as influencing the performance of the KIFIs, the study did not establish any statistically significant difference between the performance of KIFIs and KCFIs during the COVID-19 pandemic. The results suggested that the performance of both types of institutions were impacted relatively the same by the COVID-19 pandemic. However, it did not dig deeper into the issue; hence, the need for further research on the effects of the pandemic on the Kuwaiti stock market.

12.2 Study's Limitation

The study's findings have significant implications to business practices and investment in Kuwait. Nevertheless, the study had the following limitations, which may limit the application of its findings. Firstly, a causal-comparative design, which did not manipulate the independent variables, to determine the extent to which they influenced the stock performance for the institutions included in the analysis was utilized to conduct the study. Given that the design was not experimental in nature, then a true cause-and-effect relationship between the variables cannot be deduced from the findings. As a consequence, although a link between the variables can be determined based on the study's findings, the nature of the effect cannot be determined meaning that the influence of the 2007/08 financial crisis and COVID-19 cannot be determined with certainty.

Secondly, the institutions included in the analysis were selected randomly; thus, no form of matching was applied in selecting them to strength the research sample. Thirdly, although the institutions included in the study were selected randomly upon meeting the inclusion criteria, the institutions were not placed into their respective groups randomly. In view of this, the study's internal validity was threatened because the influence of the groups (KCFI and KIFI) was not eliminated. Accordingly, there would be the need

for further research to control the effect of the institutions included in the analysis by comparing homogeneous subgroups (Salkind, 2010).

Fourthly, although the Fama and French 5-factor model was identified as able to explain the performance for both KCFIs and KIFIs, the model has several limitations, which may limit the generalization of the study's findings. At the outset, the model does not include momentum in its analysis. Additionally, it ignores low volatility; thus, does not capture small stocks' low average returns whose returns behave like those of the firms that invest heavily despite earning low profits (Fama & French, 2015).

Fifthly, the data analysis showed that the models had relatively low R-square values that undermined the models' fitness into explaining the performance for the stocks and institutions included in the analysis. The implication was the models explained relatively little about the performance of the stocks and institutions included in the analysis. For the above reasons, there would be the need for further research with additional variables to determine their influence of various factor on the stock performance for the Kuwaiti financial institutions.

13 Conclusion

The current study sought to critically evaluate the performance of Kuwaiti financial institutions by comparing the stock performance for KIFIs with the performance of the KCFIs. It established that while the stock performances for both types of institutions differed before the 2007/08 financial crisis, it did not differ during and after the crisis as well as during the COVID-19 pandemic. To determine the possible causes for the differences in the performances because the stock performance for KCFIs was deemed as relatively better than that for the KIFIs, additional tests were carried out. The Fama French 3-factor model test established that the market return risk factor had a statistically significant influence on the performance of KCFIs' stock prices, but not on the performance of the KIFIs. Similarly, the Carhart 4 factor model identified market return risk factor as having substantial influence on the performance of the KCFIs' stocks, but not on KIFIs suggesting that momentum did not influence the performance of both types of institutions. Likewise, the Fama French 5-factor model identified market return risk factor as having notable influence on KCFIs' stocks. Correspondingly, it identified RMW as having notable influence on KIFIs' stocks. The study thereby concludes that the Fama and French 5-factor model could be utilized to explain the stock performance for both KIFIs and KCFIs.

By identify the Fama and French 5-factor model as the most efficient model for explaining the performance of Kuwaiti stock market, the study implies that the returns for KCFIs are correlated to market beta whereas that for KIFIs is correlated to firms' profitability. In view of this, the performance of KIFIs' stock is likely to increase with increase in firms' profitability whereas the changes in the market risks are likely to impact the performance of the KCFIs either positively or negatively depending on the nature of their change. The findings have notable implications to Kuwaiti investors and other people intending to invest in the Kuwaiti stock market. They imply that they should observe changes in the market to invest in it wisely.

In spite of the above, it would be worth noting that the Fama and French 5-factor model has been found of failing to explain variations in stock performances in certain

incidences. Additionally, it has been accused of failing to explain returns for small stocks. Accordingly, there would be the need for further research to identify the model's shortcomings in the Kuwaiti stock market. Additionally, there would be the need to evaluate the various factors that influence the performance of the Kuwaiti stock market other than the ones identified by the models. Doing so would be critical to investors and development of related disciplines, which the current study sought to contribute to.

14 Recommendations

Despite the model's shortcomings, the study recommends that Kuwaiti investors should utilize the Fama and French 5-factor model to evaluate the performance of Kuwaiti financial institutions as they make investment decisions.

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Toolkit for Multi-vector Adaptation and Development of Corporate Culture of International Companies

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Abstract. The article provides recommendations on the choice of analytical tools, the use of which is aimed at optimizing decision-making regarding the adaptation and development of the corporate culture of an international company, taking into account the country of origin factor, sectoral features and specifics of the socio-cultural environment of the countries of presence. Four main factors that shape the need to adapt the corporate culture of an international company to the conditions of the host countries have been identified: national cultural characteristics of the country of origin and the country of base, which are estimated on the basis of the 6-D model, and provide for the calculation of the indicator of the level of cultural distance; internal corporate standards and target orientations of the company, which, together with the industry specifics of the activity, determine the optimal type of corporate culture of the company based on the OCAI method; the form of foreign operations in accordance with the depth of integration into the foreign socio-cultural environment and the intensity of contractual/partnership relations with national entities.

Keywords: corporate culture · international company · adaptation · 6-D model · OCAI method · form of foreign operations

1 Formulation of the Problem

Corporate culture is one of the key factors in the success of an international company, which determines the values, management style, behaviour and interaction between employees. The lack of a clear and understandable corporate culture can lead to a loss of efficiency of the company, unethical actions on the part of employees, creating the wrong image of the company and other negative consequences. An important condition for ensuring the efficiency of companies and their adaptation to the changing conditions of international business is to take into account the specifics of the political, economic and socio-cultural environment of the host countries. At the same time, the corporate culture of powerful international companies in any country of their presence should demonstrate resistance to the turbulence of the external environment, comply with the general corporate goals and values of the company, ensure the growth of brand value, and be formed in accordance with industry standards of activity. The outlined problems determine the relevance of the study of methodological approaches to the typification and analysis of corporate cultures, the observance of which contributes to the successful adaptation of international companies to the specific factors of the country of presence, subject to the peculiarities of their sphere of activity and national identity of the country of origin.

2 Literature Review and Methodology

The multiculturalism of the modern business environment is an integral factor in the functioning of international companies. At the end of the last century, that is, before the final registration of the trend towards the globalization of international activity, J. Martin [1] argued that the corporate cultures of multinational companies cannot inherently be monocultural, and M. Salzer proposed the concept of super-identity as a mechanism for compensating for national cultures [2]. According to M. Salzer, the idea of super-identity is to find a dominant culture by a transnational company, which will ensure its successful global presence and the immutability of the brand based on overcoming the differences of the cultures of the host countries. The development of the idea of super-identity and the methodological basis for the functioning of companies in a multicultural environment should be considered the concept of cross-cultural management, the essence of which is set forth in particular in [3–6]. Thus, according to the classical cross-cultural theory of E. Schein [6], the formation of a global corporate culture should take place without an emphasis on cultural affiliation and peculiarities of the value orientations of its employees, and cross-cultural management as a management process is designed to ensure internal integration of personnel and the effectiveness of the company's interaction with the external environment. Despite the unconditional rationality of the idea of super-identity and recognition of the principles of cross-cultural management, neglecting the affiliation of employees and other stakeholders of the company to various cultural frames usually leads to intra-corporate conflicts, reduced labor productivity and managerial crises. Therefore, in the works of scientists and analysts, cases of international companies that build corporate relations based on the specifics of the national mentality are actively considered, and crisis situations that may arise as a result of ignoring the

cultural differences of countries [7–10] are analyzed. For example, M. Al-Zghool, analyzing the corporate culture of IKEA, notes that the company at a certain time found itself in a situation where its declared values about caring for people and the planet in the imagination of stakeholders and society did not correspond to reality [7, p. 12–13]). This led to a number of conflicts and accusations, many of which could have been avoided if the socio-cultural, ethnic and ethical realities in the countries of presence were taken into account. In the work [11] it is thoroughly noted that neglecting the features of the mentality of the host country can directly affect the efficiency of exports, and the loyalty of consumers to international brands is largely determined by taking into account the mental specifics – especially if we are talking about Asian countries. Therefore, one should agree with the statement that the corporate culture of an international company, under the condition of preserving the identity of the country of origin, should be flexible and take into account the specifics of a certain national environment as much as possible. In this context, M-J. Browaeys and R. Price [12] thoroughly note that when a company turns into a multinational conglomerate, its corporate culture in the countries of presence can be both original and local national, as well as a rational combination of them. Therefore, in our opinion, an urgent problem is the choice of analytical tools, the use of which will allow the company to make rational decisions regarding the adaptation and development of corporate culture, taking into account the factor of the country of origin, industry features and the specifics of the socio-cultural environment of the countries of presence.

3 Results of the Investigation

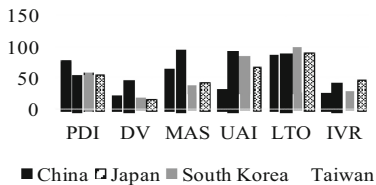
3.1 Hofstede 6-D Model as a Tool for Clustering Countries Along Cultural Dimensions

A well-known tool for analyzing national culture is the 6-D Hofstede model, G. [13], the possibilities of practical use of which are available on-line [14]. Hofstede and his follower M. Minkov [15] define a set of representations that are strongly influenced by national culture in six dimensions: power distance (PDI), individualism (DV), masculinity vs femininity (Masculinity vs Femininity, MAS), Avoidance of Uncertainty (UAI), Long Term Orientation (LTO), Indulgence (IVR). Assessing the cultural distance between countries based on the Hofstede model will allow an international company to better adapt to the specifics of the global multicultural environment, and avoid many conflicts and misunderstandings with stakeholders in different countries that may result from differences in socio-cultural patterns. Let's consider how cultural features and patterns of thinking affect the formation of the company's corporate culture, guided by the results of visualization of the cultural dimensions of the base countries of each of the clusters (Fig. 1).

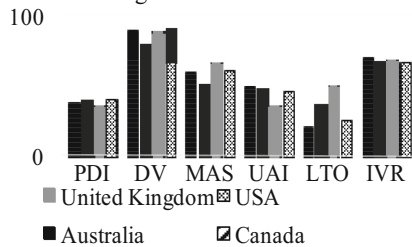
Let's start with the cluster of Asian countries (Fig. 1(a), (b), (c), (d)), which is characterized, first of all, by a pronounced long-term orientation and pragmatism. The focus is on the company's longevity, stable market share growth, and a high rate of equity capital. The companies of the cluster countries are collectivist, team-oriented, adhere to strict codes of beliefs and behavior, and avoid innovative risky ideas. Hard work, accuracy and punctuality are valued. One of the main values and motivations for employees is safety.

Little attention is paid to free time and work-life balance. Workers value hierarchical relationships to some extent, especially in China, inequality is accepted as acceptable. The cluster of Anglo-American countries (Fig. 1(b)) is characterized by a high level of individualism. The distance of power is comparatively low, despite the British class system and the importance of status from birth. In Canadian companies, the hierarchy exists rather for convenience, employees freely exchange information with managers and appreciate direct communication. Individual achievements, success and results, high standards are valued. The UK is most open to change and innovation, planning there is flexible depending on changes in the environment, often without understanding the ultimate goal. Goals are more short-term. Companies are focused on making profits and enriching shareholders, and have a high need for innovation and creativity.

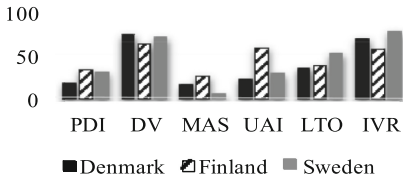
1.1. Asian countries



1.2. Anglo-American countries



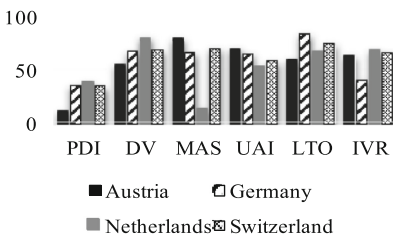
1.3. Countries of German Europe



1.4. Latin American Countries



1.5. Nordic countries



1.6. Middle East countries



Fig. 1. Cultural dimensions of the 6-D model by regional sectors (developed on the basis of [14])

Companies in the cluster of German European countries (Fig. 1(c)) are characterized by a low power distance, especially in Austria, where the hierarchy is only for convenience, the independence of employees and undesirable control are valued. The corporate culture of companies in Austria, Germany and Switzerland is characterized by

masculinity, but in the Netherlands consensus, equality and unity, support for each other, and a life-work balance are valued. Companies plan long-term, especially in Germany. Companies contribute to the satisfaction of desires and increase the level of satisfaction of workers' lives (except in Germany, where employees are more restrained and follow the rules). Companies in Latin America (Fig. 1(d)) are focused on teamwork. In Mexico and Venezuela, hierarchy, permissible inequality within the company, and centralized management are valued. In Argentina, the distance of power is less pronounced due to the migration of Europeans to the country in the 19th-20th centuries, external indicative status is important. Companies are mostly short-term oriented and not very open to change. In Mexico and Venezuela, optimism, free time, satisfaction of their desires are valued. Successful leaders who make decisions collectively, treat their subordinates formally, and show charisma. The countries of the Northern Europe cluster (Fig. 1(e)) are characterized by femininity, the balance of life-work is important for workers, leaders involve workers in the decision-making process, consensus and negotiations, equality are important. Flexibility and free time are valued, managers support their employees and communicate informally, there is direct communication with senior management. Hiring and career decisions are based on merit, management is the management of individuals. Denmark and Sweden are more open to innovation and risk. Companies prefer leaders who are more charismatic, motivate and inspire employees. Let's finish the consideration of cultural specifics by the countries of the Middle East (Fig. 1.6). Companies in Egypt, Morocco and Turkey are characterized by a high power distance, team orientation, mainly short-term planning, a low level of indulgence and satisfaction of the desires of workers (especially in Egypt), a moderate level of masculinity. A high desire to avoid uncertainty is preferred, so subordinates are often reluctant to make decisions involving risk, which explains the desirability of an autonomous leadership style.

For an international company that seeks to integrate into the market of a particular country, the 6-D model can serve as a tool for determining the level of cultural distance between the country of presence B and the country of origin A based on the calculation of the indicator:

$$\Delta(K_{AB}) = \left(\sum_{i=1}^n K_B^i - K_A^i \right) / n, \quad (1)$$

where $\Delta(K_{AB})$ is the level of cultural distance between the country of origin of the company (A) and the country of its presence (B); K_A^i , K_B^i show the value of the cultural dimension of the model 6-D respectively for country A and B.

It should be noted, that the proposed indicator is based precisely on determining the modules of the difference in values by cultural measurements of the 6-D model, and not their absolute estimates. This is due to the fact that it is not about assessing the advantages of one country over another in terms of higher achieved absolute points, but about realizing the level of differences in the cultural patterns of society of different countries. The greater this difference is, the more different the socio-cultural environment of the country of presence of the international company and the country of origin, and the more attention should be paid to the adaptation of its corporate culture to the national characteristics of the host country. And already after assessing the general level of these differences, the company's management will determine the priority dimensions of the

6-D model from the point of view of maximum differences, which will require special attention. As an example, let's evaluate the level of cultural distance between Ukraine and the leading countries for each of the regional clusters. In the Table 1 the color highlights the indicators, according to which the difference is the most significant, it is necessary to pay attention to them first of all when adapting the corporate culture. Based on the results of the analysis, it can be concluded that the corporate culture of Ukrainian international companies most easily adapts to Turkish companies, the most difficult to American and Swedish ones. Ukrainian companies, in cooperation with companies of different country clusters, should pay attention to key triggers. Thus, in cooperation with Japanese companies (cluster of Asian countries), such characteristics of national culture and mentality embodied in corporate culture as expressed masculinity and perfectionism, focus on long-term benefits to society, a high level of trust and strong interpersonal relationships of employees, the presence of unwritten corporate rules and traditions are important. The culture of American companies (a cluster of Anglo-American countries) is characterized by such common features as a high level of individualism, the availability of managers and informal communication, openness to change, the priority of short-term planning and profitability, high standards of work. Readiness for change and innovation, equality of employees, simplicity of hierarchy, flexible working hours, maintaining a life-work balance of employees, a high culture of negotiations and compromise distinguishes the corporate culture of companies in Sweden (cluster of Nordic countries). For German companies (a cluster of German European countries), direct and active communication, high standards of work, determination and perseverance of managers, clear formulations of areas of responsibility and tasks of employees, reduction of management control are typical. Other features are distinguished by the corporate culture of companies in Argentina (a cluster of Latin American countries), which is characterized by a focus on employee satisfaction, tight planning deadlines, neglect of long-term guidelines, and lack of perseverance of employees. Finally, Turkish companies (a cluster of Middle East countries) in the formation of corporate culture, the emphasis

Table 1. Results of evaluation of the level of cultural distance of Ukraine with selected countries of different clusters according to the model 6-D

Country	Cluster of countries	Difference of points on cultural dimensions with Ukraine						Level of cultural distance
		PDI	DV	MAS	UAI	LTO	IVR	
Japan	Asian	38	21	68	3	2	28	27
UNITED STATES	Anglo-American	52	66	35	49	60	54	53
Sweden	Northern Europe	61	46	22	66	33	64	48
Germany	German Europe	57	42	39	30	3	26	33
Argentina	Latin America	43	21	29	9	66	48	36
Turkey	Middle East	26	12	18	10	40	35	24

is on achieving medium-term goals, paying attention to meeting the needs of employees, limiting privacy, openness to change.

Taking into account the level of cultural distance is an important, but not the only factor in adapting the corporate culture of an international company to the conditions of presence in other countries, so consider the following tool for its analysis and optimization.

3.2 Typing of Corporate Culture Based on the Organizational Culture Assessment Method (OCAI)

Organizational Culture Assessment Instrument (OCAI) method by K. Cameron and R. Quinn [16] (Cameron, K. S., & Quinn, R. E.) allows the company to both assess the current state of the corporate culture, and determine what type of it is necessary to implement a long-term business strategy and develop an action plan to achieve this goal. The result of using the OCAI method is a rating of four alternatives, which allows you to identify the type and state of the company's culture by building a framework for competing values (Fig. 2).

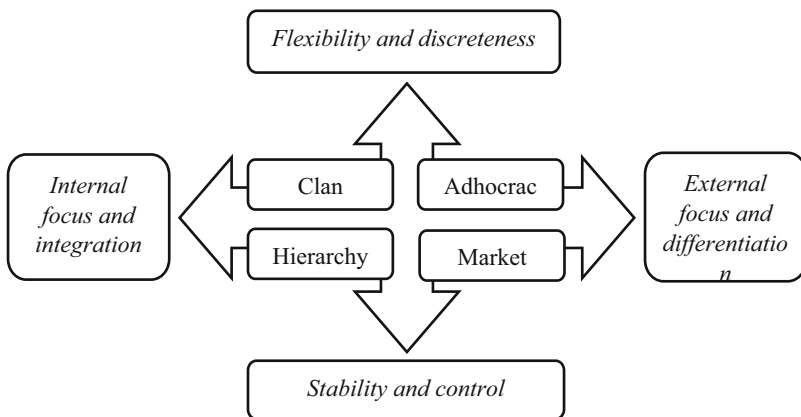


Fig. 2. Framework design of competing values according to OCAI (compiled on the basis of [16])

The types of culture in this case include clan (alternative A), adhocratic (alternative B), market (alternative C) and hierarchical (alternative D). Clan culture involves the formation of a “family” within the company, where all employees share common values, all united and empathic. Adhocratic is a corporate culture characterized by flexibility and adaptability to circumstances. Hierarchical culture is mostly aimed at a clear division of responsibilities in an international company, standardization of rules and procedures of functioning. Market culture means that the company primarily focuses on external circumstances, and not on the internal situation. It is obvious that the company forms its corporate culture taking into account national cultural characteristics, the adopted management style, targets and industry specifics of activities. With the help of the online resource OCAI online [17], you can effectively use this method and determine what

type of corporate culture of a company can be attributed to. Assessment of the current situation can be carried out on the basis of analysis of corporate culture and allocation of actual problems in the activities of an international company. For a complete picture of the use of the OCAI method on this site, it is also necessary to assess the desired situation regarding the priorities for the development of corporate culture. Based on a logical assumption, we will assume that the ideal ratio for any subject of international business is an equivalent combination of characteristics of different types of cultures, that is, paying attention to all aspects – technology, workers, leadership and structuring of activities. So, let’s try to assess the state of corporate culture of some leading international companies, guided by the OCAI method and logical assumptions about the priorities of their development in accordance with the specifics of functioning. Thus, for companies whose activities are closely related to digitalization, the adhocratic type of corporate culture, which is aimed at adapting to changes in the business environment, should be considered the most suitable in accordance with the OCAI tool. The profile of adhocratic culture is based on risk-taking, experimentation, change management, and usually this type is typical for companies in dynamic fields of activity, such as the film industry, consulting, software development [18]. These include, for example, the American corporation Google, whose corporate guidelines are aimed primarily at innovative training and exchange of experience in order to adapt to new technologies and market conditions [19]. The results of assessing the corporate culture of selected international companies using the OCAI Internet resource are presented in Table 2, and the visualization of these results in the form of framework structures of competing company values is presented in Fig. 3. So, using the OCAI method for Google, you can make sure that its type of culture is exactly adhocratic. The desired future situation for the corporation is to balance all indicators and focus on aspects of clan and hierarchical cultures.

Table 2. Results of assessment of the corporate culture of leading international companies according to the OCAI method

Type of culture	Google		Samsung		General Electric		Coca-Cola	
	Current status	Desired state	Current status	Desired state	Current status	Desired state	Current status	Desired state
Adhocratic	38.33	29.17	20.67	26.67	17.50	25.83	25.17	25.83
Clan	18.33	27.50	36.67	26.67	13.33	25.83	15.67	27.50
Hierarchical	18.33	25.83	18.50	25.83	40.83	26.67	22.83	29.17
Market	25.00	17.50	24.17	20.83	28.33	21.67	36.33	17.50

Based on OCAI online [17].

Some leading subjects of international business may focus their activities not so much on innovation as on the general atmosphere, mentoring, capacity development, values and traditions in the team. According to the classification of OCAI, these are clan-type companies, which include, for example, Samsung Electronics Corporation (South Korea). Samsung has a strong corporate culture based on family ties and employee relationships. [20] Samsung’s priority development paths in the future are: emphasis

on innovation, willingness to take risks, structuring its activities, as well as increasing market orientation. An important role is played by adherence to traditions, preservation of values and history of the company, which preserves their identity and integrity, and forms a well-coordinated corporate culture.

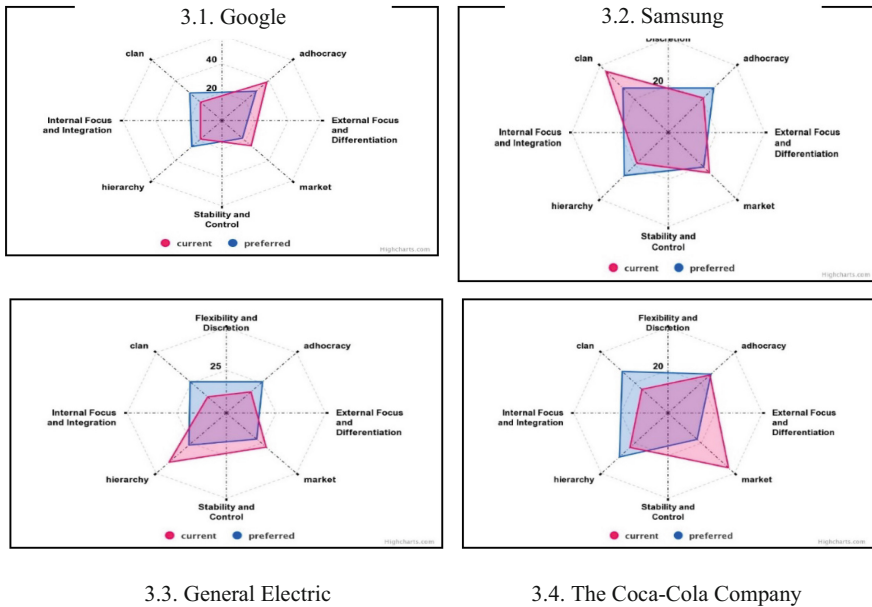


Fig. 3. Framework constructions of competing values for selected international companies (determined on the basis of [17])

The next type of corporate culture according to OCAI is hierarchical, based on efficiency, control of processes and costs, organizational improvement, accuracy, problem solving, error elimination, logical management analysis and careful decision-making. Usually this profile corresponds to bureaucratic and structured companies - for example, banks or financial institutions, or military organizations, large manufacturing companies and organizations with a high degree of specialization [19]. This type includes the American corporation General Electric, which, according to OCAI calculations, has a pronounced hierarchical corporate culture, and the main problem of its improvement is low indicators corresponding to clan culture. That is why one of the main priorities for the corporation should be to improve working conditions, increase comfort for employees, provide them with a pleasant atmosphere, reward system, etc. In addition, the company has a problem with insufficient focus on innovation, so it is desirable to take this aspect into account when planning measures to develop corporate culture. For the successful development of corporate culture, companies must be ready for change and quickly adapt to new challenges and opportunities. International companies that focus on these issues and aim to focus on external circumstances correspond to the market corporate culture. Usually, the market type of corporate culture is typical for companies

in the field of marketing and sales, the production of goods and services, as well as in the field of nutrition [19]. One example is the American food company The Coca-Cola Company, whose corporate culture focuses on the needs and desires of consumers, and adjusts its activities to the requirements of the market. The company is focused on creating attractive innovative products and marketing campaigns to attract the attention of consumers and remain competitive in the market. A desirable situation for The Coca-Cola Company is a shift in focus on employees, because the indicators corresponding to the characteristics of clan culture in the company have low values. The results of the analysis of corporate cultures of selected international companies are systematized in Table 3.

Table 3. Results of analysis of different types of corporate culture of international companies according to theOCAI method

Company	Country of origin	Scope of activity	Culture type according to OCAI	The main features of culture
Google	UNITED STATES	Internet, computer programs, telecommunications	Adhocratic type	Risk activity Openness to experiments and technologies Dynamism and creativity
Samsung Electronics	South Korea	Electronic Industry	Clan type	Family nature of relationships Priority of care for employees Emphasis on cooperation and human resource development
General Electric	UNITED STATES	Engineering, electric power, aviation, automotive and leasing	Hierarchical type	Stability, controllability Focus on internal problems Clear management processes and rigid hierarchy
The Coca-Cola Company	UNITED STATES	Food industry	Market type	Focus on market conditions Striving “for leadership” Priority of reputation and brand development

Separately, it should be noted that despite various strategic guidelines, goals, values and other factors, based on the analysis of the experience of the world's leading companies, it can be argued that their corporate culture is formed only on the basis of the national traditions of the country of origin, but also takes into account the specifics of industry activities, which, in our opinion, should be considered in synthesis with the form of the company's presence in foreign markets.

3.3 The Forms of Foreign Operations as a Factor in Adapting the Company Corporate Culture

An important factor influencing the process of adapting the corporate culture of an international company to the conditions of the host countries is the form of foreign operations. The traditional criterion for the classification of forms of foreign operations is the depth of integration into the foreign socio-cultural environment and the intensity of contractual/partnership relations with national entities (Table 4).

Table 4. The main forms of foreign transactions in terms of the importance of adapting the culture of companies

Forms of operations	Depth of socio-cultural integration	Intensity of contact or partnership	The need to adapt the culture of an international company
Export	Insignificant	Minimum	Insignificant
Licensing and franchising	Insignificant	Essential	Moderate
Strategic alliances	Moderate	High	Moderate
Joint Venture	High	Maximum	High
Own enterprise	High	Essential	High

In our opinion, these two characteristics of forms of international business determine the extent to which the company should take into account the specifics of the national mentality, business traditions, cultural patterns, etc. The greater the integration into the national socio-cultural environment of the host country and the intensity of the partnership provided by the form of presence, the more important is the adaptation of the corporate culture of the international company to the foreign environment.

3.4 Justification of Vectors of Adaptation and Development of Corporate Culture of an International Company

The given toolkit and the considered influencing factors on the process of adaptation and development of the corporate culture of an international company in the country of presence allow us to determine its vectors (Fig. 4).

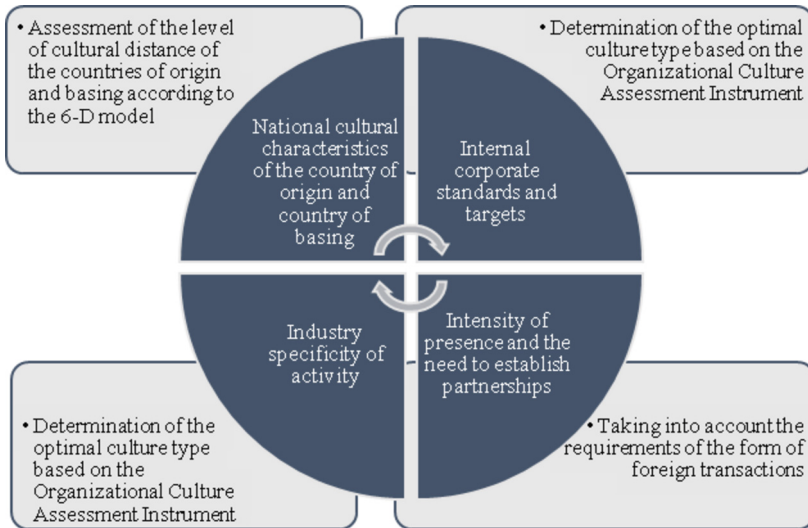


Fig. 4. Vectors of adaptation and development of corporate culture of an international company in the countries of presence.

As can be seen from the figure, it is possible to identify four main factors that shape the need to adapt the corporate culture of an international company to the conditions of the host countries:

- 1) national cultural characteristics of the country of origin and country of base, which are assessed on the basis of the 6-D model, and provide for the calculation of the indicator of the level of cultural distance;
- 2) internal corporate standards and target orientations of the company, which, together with the industry specifics of its activity, determine the optimal type of corporate culture of the company (adhocratic, clan, hierarchical, market) based on the OCAI method;
- 3) the form of foreign operations chosen by the international company to ensure its presence in the host country (export, licensing/franchising, strategic alliance, joint venture or own enterprise), and which determines the need to adapt the corporate culture in accordance with the depth and intensity of integration into the foreign socio-cultural environment contractual/partnership relations with national entities.

The above recommendations can be used by an international company in the host countries that wants to use the concept of a dominant culture, adopt the original cultures of the partner company or combine with its own. It should not be forgotten that although national cultural peculiarities have a significant impact on the corporate culture of international companies, but we should not underestimate the influence of globalization, the adoption of the experience of international companies of neighbouring countries and world leaders, which to some extent over time smoothes out the sharp cultural differences. Understanding the cultural differences analyzed above will help to adapt the corporate culture of international companies in some countries to others, for example,

when entering a new foreign market, forming foreign branches, merging or acquiring companies from different countries, etc. But, as noted, we should not forget about the role of countries of globalization processes, leveling from the point of view of socio-cultural diversity, the impact of which requires the development of new and adaptation of existing tools for analyzing the corporate culture of international companies.

4 Conclusions

The corporate culture of well-known international companies is quite diverse, as each company has its own values, mission, approaches and practices. But the obvious task for an international company is to develop the ability to adapt and respond to local, national and multinational environments and their corporate culture features based on their own values and in relation to the company's goals. To solve this problem, the article provides recommendations on the selection of analytical tools, the use of which will allow the company to make rational decisions regarding the adaptation and development of corporate culture, taking into account the country of origin factor, industry features and the specifics of the socio-cultural environment of the countries of presence. Finally, it should be noted that regardless of the activity profile, the culture of an international company is the basis for the formation of its identity and competitiveness. One of the important attributes of harmonious development is openness and readiness for continuous improvement, because a successful corporate culture must be open to change and adapt to the changing conditions of modern times together with the company in order to meet the transformation trends of global markets and customer needs.

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The Impact of Covid-19 on Refugees in the Hosting Country Case Study – Jordan

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Abstract. This study aims to ascertain the Impact of COVID-19 on refugees in the host country. A sample consisting of 120 of respondents to collect research data. One inclusion criterion was assumed in this research, which is an idea about refugees' situation in the hosting country from different dimensions and recommendations that will help the hosting countries of the refugees to provide the best services to control the impact of COVID-19 on them. Research data was gathered using a questionnaire distributed randomly to the respondents. The final number of the questionnaires was 103 with a response rate of 86%. Analyzing data via SPSS, the results indicated that COVID-19 has a direct impact on (Economic, Education, Social life, Health Services, and Services) in Jordan which is the hosting country.

Keywords: COVID-19 · Global Health · Global Economy · Probiotics · Vaccine · refugees · E-learning · E-services

1 Introduction

A person who has abandoned their hometown due to the possibility of severe human rights abuses and persecution is known as a refugee. When the dangers to his safety and life have gotten so bad that he must decide to leave his country and seek refuge elsewhere.

Jordan hosts about 760,000 refugees, most of whom are Syrians, Iraqis, and Yemenis, in addition to refugees of other nationalities, with more than 80 percent of them living among Jordanians in host communities.

According to UNHCR's latest Vulnerability Monitor (Vulnerability Assessment Framework), the socio-economic situation of refugees inside and outside camps is increasingly precarious.

This instability has led to food insecurity: forcing many parents to force their children to work and thus to drop out of school early.

Also, the situation of the refugees is worsening due to the poor capabilities and available support, which has affected their health status.

2 Research Questions

The following questions will be addressed by this research in light of the research problem:

1. How has COVID-19 affected the economic position of refugees in Jordan?
2. How has COVID-19 affected the educational attainment of refugees in Jordan?
3. How has COVID-19 affected the social lives of refugees in Jordan?
4. How has COVID-19 affected the Jordanian healthcare system for refugees?
5. How has COVID-19 affected Jordan's assistance for refugees?

3 The Significance of the Research

One of Jordan's most pressing issues is the effect of COVID-19 on refugees living there. It offers details that can help people comprehend how COVID-19 has affected refugees in Jordan. The study's practical significance lies in the fact that the host nation can use the survey results to assess the effects of COVID-19 and develop strategies to leverage the findings of this research paper to reduce the effects of COVID-19 on refugees in Jordan.

4 Objectives of the Research

The main objectives of this research paper are:

1. To determine the impact of the covid-19 on refugees in Jordan.
2. To write a theoretical framework to give an idea about refugees' situation in Jordan from different dimensions.
3. To provide some recommendations that will help the hosting countries of the refugees to provide the best services to control the impact of covid-19 on them.

5 Research Design

Figure 1 explains a hypothetical study model based on the research topic that shows the impact of independent variable on the dependent variable:

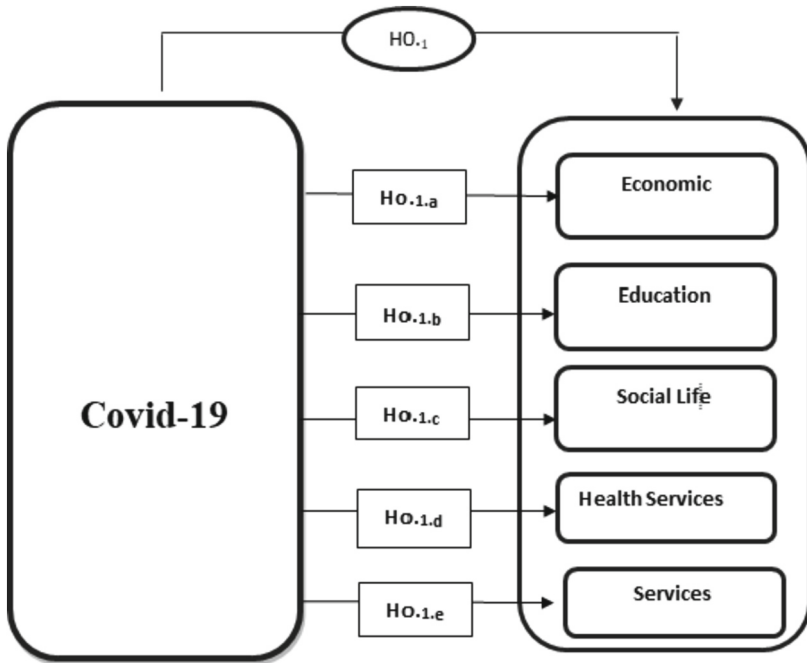


Fig. 1. Study Model

6 Research Hypotheses

Principal Theory:

Ho.₁: There is no statistically significant effect of Covid-19 on (Economic, Education, Social life, Health Services, and Services) at the level of ($\alpha \leq 0.05$).

This hypothesis is divided into the following-sub hypotheses:

Ho._{1a}: COVID-19 has no statistically significant effect on economic variables at the level of ($\alpha \leq 0.05$).

Ho._{1b}: COVID-19 has no statistically significant effect on education at the level of ($\alpha \leq 0.05$).

Ho._{1c}: COVID-19 has no statistically significant effect on social life at the level of ($\alpha \leq 0.05$).

Ho._{1d}: COVID-19 has no statistically significant effect on health services at the level of ($\alpha \leq 0.05$).

Ho._{1e}: COVID-19 has no statistically significant effect on Services at the level of ($\alpha \leq 0.05$).

7 Research Methodology

The methodology used in this research article is analytical and descriptive, which is appropriate given the goals of the study. To determine the influence of an independent variable on the dependent variable, a methodical approach to data analysis is used.

Additionally, to respond to the study’s questions, assess the accuracy of its assumptions, and obtain its findings, a questionnaire was distributed to the intended audience.

8 Sample and Population

The population of this study consisted of all refugees in Jordan (Palestinians, Syrians, Iraqis and Yaminis). The researchers distributed questionnaires to the refugees in Jordan according to Table 1.

Table 1. Study population

Refugees	Questionnaires distributed		Questionnaires dropped	Questionnaires analyzed	
	No.	%		No.	%
Syrians	42	100%	2	40	95%
Yaminis	31	100%	1	30	96%
Palestinians	12	100%	0	12	100%
Iraqis	23	100%	3	20	86%

9 Data Sources

The questionnaire used as a primary source of data collecting for the research. A 5-set questionnaire was developed. Respondents were assured that the attained information will be used for the purpose of the study only and dealt with in complete confidentiality.

B. Demographic data: The first part of the questionnaire included four questions about the respondents’ demographic variables. The questions were about age, gender, scientific qualification, no. of years as a refugee. The researcher used 5 Likert- scale to enable measuring the study variables along with enabling the participants answering process of the variables questions.

Table 2 demonstrates the five Likert levels which will be coded from 1 to 5 to help using the data with the use of the SPSS package [26].

Table 2. Likert – Type Scale Form

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

10 Data Collection Procedure

The researchers distributed a questionnaire to the targeted sample. After collecting the questionnaires, a review of the data that are collected was done to make sure of the completeness and accuracy of all entries. After that the data were entered to be processed with the use of the SPSS “Statistical Package for the Social Sciences” application to get percentages, means, frequencies, regression and standard deviations.

11 Instrument Validity and Reliability

The internal consistency was measured using the Cronbach’s alpha Coefficient. Since the number is greater than 0.60, it is assumed that the results are statistically acceptable the closer they are to 1 [25]. The Cronbach’s Alpha values for each research variable are shown in Table 3 below.

Table 3. Cronbach’s Alpha for Research Variables

Variables	Cronbach coefficient	No. of Items
Economic	0.808	6
Education	0.824	6
Social life	0.828	5
Health services	0.878	8
Services	0.884	6
Questionnaire	0.934	31

As all of the values of Cronbach Coefficient are above 0.60 we can approve that the tool is consistent.

12 Statistical Methods

Frequencies, Percentages, Means, Standard Deviations, Variance Inflation Factor Test (VIF) and simple and Multiple regression.

13 Theoretical Framework

The COVID-19 virus is an infectious corona virus disease caused by the Severe Acute Respiratory Syndrome Corona virus 2 (SARS-COV-2) virus as in Fig. 2. It is an enveloped virus containing a positive-sense single-stranded RNA (ssRNA) virus with a single linear RNA segment and gets its name from the crown-like spikes on its surface, which affects vertebrates and members of the bird and avian families of animals. On December 12, 2019, a virus was disclosed in the Chinese city of Wuhan, in the province of Hubei. ‘Once-in-a-century epidemic’ brought on by COVID-19 [1–3].

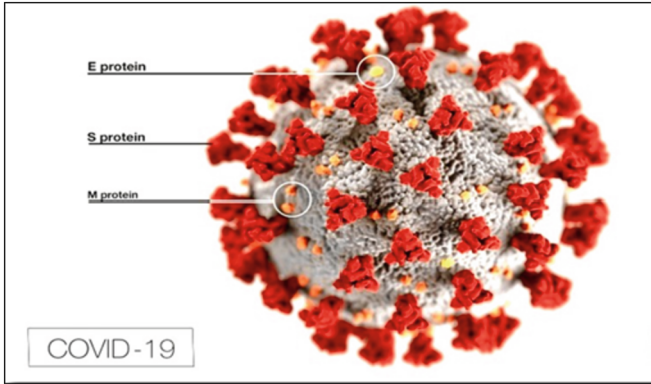


Fig. 2. Corona virus structure [17].

The respiratory disease caused by COVID-19 is highly contagious; therefore, the World Health Organization (WHO) has classified it as a pandemic disease. The corona virus spreads quickly, which is problematic for societies' health systems. However, it does not share the same genetic traits as the Middle Eastern Respiratory Virus (MERS) or Severe Acute Respiratory Syndrome (SARS). It is extremely sensitive to heat and UV radiation [4–8].

The International Committee on the Classification of Viruses of the World Health Organization gave the name B2019-nCoV, also known as SARS-CoV-2. Sadly, the virus can be transmitted by droplets spread from the infected person to the person who is infected when there is non-protective contact between them. When air molecules are exposed and within a short distance of a healthy individual, or if they are in contact for an extended period of time, they move. The symptoms of contamination with the infection can cause a high fever, fatigue, and a dry cough. Figure 3 shows the various ways via which the pandemic can be transmitted or prevented.

The following signs and symptoms could also be present: nasal congestion, sore throat, colds, and diarrhea. Patients in the critical or severe stages of having a low or moderate temperature, sometimes without symptoms of hyperthermia [8, 9, or 10], can be killed by exposing them to a temperature of 560, 75% ethyl alcohol, per acetic acid, and hydrogen peroxide for 30 min.

As of March 2020, all nations in Western Europe have been affected by the outbreak of the corona virus disease in 2019. Many nations slowed their economies and imposed severe restrictions on public life to slow the spread of the disease. We are speechless during this corona virus crisis. A crisis of this magnitude will fundamentally alter society. [1–3, 8, 9]. COVID-19 has resulted in a 'once-in-a-century pandemic, with about 302,120,486 corona virus cases, 5,493,785 deaths, and 258,009,196 cases recovered globally by the first week of January 2021.

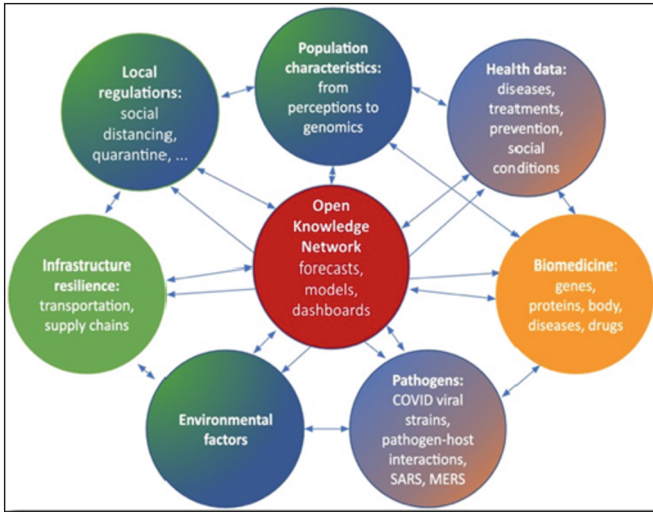


Fig. 3. Transmission and prevention of COVID-19 disease [19].

14 Impact of COVID-19 in the Global Economy

COVID-19 has an effect on various areas, including the economy, healthcare systems, and patient care. COVID-19 is a “Pandemic of a Century” that has affected hundreds of countries worldwide and resulted in significant losses in both lives and property. The world is still at war with an invisible foe, and this battle must be won with the aid of science and the application of cures that have been validated by scientific research [11, 12].

15 Small Business Outcomes and Expectations

With a survey of more than 5,800 small businesses between March 28 and April 4, 2020, this study sought to demonstrate the impact of COVID-19 on these businesses. They discovered that lockdowns and mass layoffs had already happened a few weeks into the crisis, according to the survey. The likelihood of a lockdown was inversely proportional to how long the crisis was anticipated to last. Additionally, businesses’ expectations for the length of COVID-related disruptions varied greatly. While the majority of businesses anticipated receiving funding through the Corona Virus Control, Relief, and Economic Security (CARES) Act, many small businesses are financially fragile. Finally, the study’s findings showed that this confirms how financially fragile many small businesses are and how much the current crisis has impacted them. The survey results from small businesses also show that many are predicted to collapse in the absence of financial help. The results also highlight the significance of sound economic policies and public health initiatives. The poll also yields three conclusions that are pertinent to policy. First, more than 13% of respondents do not anticipate receiving PPP loans under the CARES Act, and second, businesses in industries that are particularly vulnerable, such

as personal services, tourism, restaurants, and projects, will find it extremely difficult to survive if the crisis lasts for more than 4 months. Third, the total amount of loans would be roughly \$410 billion if we look at the 72% of businesses that said they would accept CARES PPP loans for all small businesses in the United States. (Assuming that all enterprises will obtain the maximum loan size) [18].

The World Bank and International Monetary Fund forecast that the majority of nations' GDP per capita at the end of 2021 will be lower than it was in December 2019. Figure 4 reports the global economic impact of the pandemic.

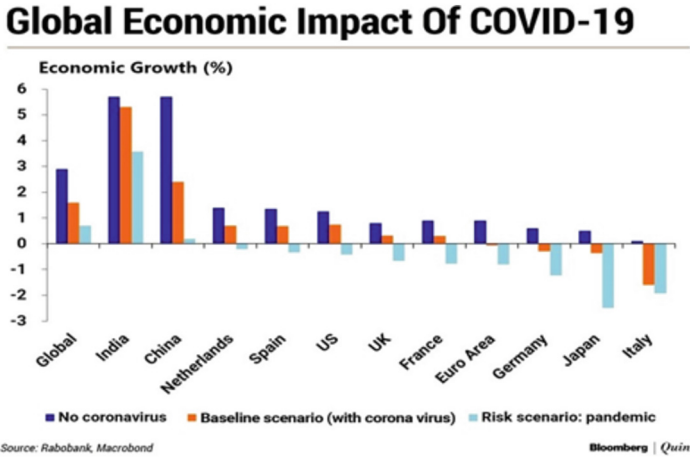


Fig. 4. Barograph representing the global impact of COVID-19 on economy [11].

16 Research on Information Management and Practice

The COVID-19 pandemic has forced many organizations to transform and rethink key elements of their business operations and how to use technology to sustain operations while adhering to the changing landscape of procedures and principles. This study aimed to explore many of the major issues and underlying complexities affecting society and organizations in COVID-19. The researchers polled 12 subject matter experts to get their opinions on a variety of topics, including online education, artificial intelligence, digital strategy, cyber security, information management, big data, social interaction, block chain, mobile technology, privacy, and strategy. They also looked at how the current crisis was viewed through these experts' perspectives to determine how it affected these particular fields. [10, 27, 28].

The study's findings also support viewing COVID-19's primary difficulties within an IS and IM framework. Governments and decision-makers have been compelled to reevaluate how they employ technology and information systems as a result of the outbreak. When creating crisis management scenarios, artificial intelligence is able to produce decisions that are better and more informed. During the pandemic, security and privacy

were top priorities for many residents. Due to social and cultural hurdles, the digital gap is particularly evident in underdeveloped nations [20].

17 The Problems of the World of Education

One of the nations with the greatest number of patients is Indonesia. COVID-19 in Central Asia has an effect on various industries, including the field of education. In order to address the approximately 45 million students in Indonesia who are unable to participate in the learning process, the government published a learning process policy during a pandemic. This policy attempted to identify how the traditional face-to-face learning process would alter to include online learning. A qualitative descriptive methodology and library research were both used in the study. The difficulties in implementing an online learning strategy were caused by the students' lack of preparation (according to various studies, not all of Indonesia's teaching staff in different regions are equally skilled at carrying out the learning process online in terms of competency, quality, the use of communication, and technology) and the lack of infrastructure to facilitate online learning, as well as the elderly's inadequate education when it comes to accompanying students while utilizing online media. Internet networks must be provided at significant expense. According to the findings, the government's decision to use online education truly offers a way to maintain teaching and learning activities and information transfer for every student despite the COVID-19 pandemic. So that the applicable system can still achieve both the purpose of education and the required amount of time. Due to the government's lack of readiness to implement the 456 key elements necessary for the achievement of the program, online learning is an issue in the field of education. In most parts of Indonesia, there is an uneven distribution of infrastructure and facilities related to the use of technology. In addition, there is still very little teacher and parent preparation to support the implementation of online learning. The primary issue in this realm of education is government-sponsored inequitable schooling before and during the COVID-19 pandemic. In order to address issues in the field of education in the midst of the Corona outbreak, the government must come up with alternate alternatives [21].

Mental Health: The following issues were to be highlighted by this study: What is the COVID-19 pandemic situation like in Jordan? From the standpoint of mental health, how do you believe the pandemic is affecting the population in Jordan? Understanding What Is and Is Not Helpful in Handling the Situation in Jordan What Are Jordanians' Reactions to the Situation in Your Country?

How is the health care system currently set up? and draw the following conclusions: Jordan has been seen as the Middle East and North Africa's pro-active reaction. Additionally, assistance with additional resources is required to manage COVID-19's effects on the economy, the situation of the refugees, and the general Jordanian population [22].

18 On the Undergraduate Medical Curriculum Medical Education Online

This study aims to examine how the COVID-19 pandemic affected medical education around the world. Today, all universities strive to deliver medical education using novel techniques; doing so guarantees the continuity of learning for the NHS's future workforce. When creating new medical curricula, new online teaching techniques should be taken into account, as should new ways to teach medical students practical skills online [23].

19 Challenges and Opportunities for Entrepreneurship Education in the Transition from Offline to Online

Higher education is facing a dilemma like we haven't seen since the introduction of technology-assisted and online learning because of the global proliferation of COVID-19. The effects of COVID-19 on education, particularly in the area of entrepreneurship. This paper examines how the pandemic has affected entrepreneurship education around the world and argues for the creation of more scholarships and resources for online entrepreneurship education.

On July 10, 2020, COVID-19 began to spread around the world, with over 12.3 million cases verified and more than 555,000 fatalities to date. This required organizations to create processes to increase cleanup on campuses and to start investigating incidents like those involving higher education. The universities then swiftly adopted a more strict strategy by postponing significant public activities.

The need to protect pupils quickly grew along with the level of attention, public pressure, and fear (and threat). In other words, the COVID-19 epidemic prompted colleges to entirely replace their instructional devices with online delivery devices overnight, which resulted in the shift to online education at the campus level (Cornell, Harvard, the entire Florida State University system, CUNY, etc.) [24].

The question of whether online learning delivers on the promise of high-quality higher education is no longer at the forefront; instead, the question is how universities can directly and successfully embrace the widespread use of online learning.

According to this study and other articles that have been written, faculty must fundamentally alter their entire pedagogical approach in order to adjust to new contextual (market) conditions and put practice improvement at the center of their work if they want to effectively support teachers as they make the transition to online learning [24].

20 Treatment

Treatment for COVID-19 typically depends on how severe the infection is and/or how well the patient's immune system is functioning. So far, as more clinical examinations are done and antiviral become more accessible, the treatment strategy has included the use of vitamins, traditional Chinese medicines, herbal medications, probiotics, and respiratory therapy. Probiotic immune system boosters are crucial, as are preventive strategies such

as social distancing, masking, and the isolation of infected individuals. There are more vaccines accessible than ever before, and the WHO has given its approval as more clinical studies are conducted and antiviral are produced in larger quantities. Currently, the FDA has authorized Pfizer's antiviral medication Paxlovid for the treatment of corona virus 19. In addition to increased exercise and meditation for relaxation and de-stressing, they are significant resources that shouldn't be ignored because they offer therapeutic capabilities [13–16].

21 Description and Analysis of the Study Variables

21.1 Personal and Demographic Data

Table 4 describe the demographic characters of the sample, respondents were asked to give data concerning gender, age, education level, number of years as refugee.

Table 4. Demographic characters of the sample

Variables	Class interval	Frequency	Percentage
Gender	Male	59	57.3%
	Female	44	42.7%
	Total	103	100%
Age	18-less than 25	13	12.6%
	25-less than 35	23	22.3%
	35-less than 45	32	31.1%
	45-less than 55	21	20.4%
	More than 55	14	13.65
	Total	103	100%
Education	Secondary school	62	60.2%
	Diploma	23	22.35
	Bachelor	15	14.6%
	Masters & PhD	3	2.9%
	Total	103	100%
Number of years as a refugee	Less than 5 years	12	11.7%
	5-less than 10 years	74	71.8%
	10-less than 15 years	16	15.5%
	More than 15 years	1	1%
	Total	103	100%

Table 4 indicates that males number were 59(57.3%) from the sample that consists of 103 of respondents, while the number of females was 44(42.7%), the percentage of

male more than female due to many reasons such as the rejection of female to participate in the sample. Table 3, also indicates that sample who are from the age group of 35-less than 45 years have the highest percentage (31.1%), while those who are 18-less than 25 years make up the lowest percentage (12.6%). This trend is spread in most of refugee camp in the world, the education of refugees is less the bachelor holders rather than holders of master and PHD. Table 3, Indicates the that distribution of sample based on the number of years as refugee, where the frequency of 5-less than 10 years was the highest number 74 which makes up 71.8% of the total sample, while the lowest frequency was more than 15 years which amounted to 1 respondents (1%).

22 Description and Analysis of the Study Variables

The description of the questionnaire paragraphs will primarily be based on the calculation of the standard deviation and the mean for every paragraph. To identify the impact, we have calculated the standard deviation, means, and relative importance for each dimension. Table 5 indicates the results of the calculation dependent variable includes five dimensions. Based on data analysis the most essential dimension was “economic”, and also got the highest mean (4.13), whereas the lowest mean was “education”. Nevertheless, Table 5 indicates that all the items have a high level in this matter, except the education and health services they got moderate level.

Table 5. Means and Standard Deviations for each dimension

Type of dimension	Variable	Lowest value	Highest value	Mean	Standard deviation	Level
Independent	Covid-19	0.70	5.14	3.4728	1.12889	
Dependent	Economic			4.13	0.615	High
	Education			3.08	0.833	Med
	Social life			3.81	0.778	High
	Health services			3.51	0.710	Med
	Services			4.03	0.648	High
Overall Average for dependent variable				3.70	0.559	High

Table 6 indicates that the highest mean is 4.72 with standard deviation (SD) of (0.617) was for the statement No. 1 in the table which says “lack of economic sources due to Covid-19”. The lowest mean reached 3.51 with SD of 0.999 was for the fourth statement on the Table 6, which says “lack of goods and services due Covid-19”. And this means that the main problem was the lack of economic sources in the hosting country for the refugees due to Covid-19.

Table 6. Means and Standard Deviations for paragraphs of (Economic Dimension) sorted descending according to the mean

No.	Items	Mean	Std. Deviation	Rank	Level
1	Lack of economic sources due to Covid-19	4.72	0.617	1	High
2	Lack of job vacancies due to Covid-19	4.70	0.557	2	High
3	Prices of goods and services increased due to Covid-19	4.26	0.960	3	High
4	Lack of goods and services due to Covid-19	3.51	0.999	6	Med
5	Rescheduling the income due Covid-19	3.99	1.015	4	High
6	No. of meals decreased due Covid-19	3.61	0.899	5	Med
Average		4.13	0.615	High	

Table 7. Means and Standard Deviations for paragraphs of (Education dimension) sorted descending according to the mean

No.	Items	Mean	Std. Deviation	Rank	Level
1	No. of student admitted in the schools decreased due Covid-19	3.65	1.144	2	Med
2	Grants for distance learning technology increased during Covid-19	2.47	1.027	6	Med
3	Availability of distance learning technology in the schools during Covid-19	2.66	1.151	5	Med
4	Are you satisfy for the level of tuitions through e-learning during Covid-19	2.70	1.211	4	Med
5	Do think that the academic achievement of the student decreased due to Covid-19	3.89	1.111	1	High
6	Do think the refugees aware of e-learning system	3.09	1.197	3	Med
Average		3.08	0.833	Med	

Table 7 shows that education dimension obtained a mean 3.08 with SD 0.833. The highest mean is 3.89 with SD of (1.111) was for the statement No. 5 in the table which says “Do think that the academic achievement of the student decreased due to Covid-19”. The lowest mean reached 2.47 with SD of 1.027 was for the second statement on the Table 7, which says “Grants for distance learning technology increased during Covid-19”. And this problem was due to the lack of economic sources and grants for the e-learning technology in the hosting country for the refugees due to Covid-19.

Table 8. Means and Standard Deviations for paragraphs of (Social life) sorted descending according to the mean

No.	Items	Mean	Std. Deviation	Rank	Level
1	Social life decreased due Covid-19	4.33	0.933	2	High
2	Family violence increased due Covid-19	3.11	1.275	4	Med
3	Dealing with others decreased due to Covid-19	4.11	0.907	3	High
4	Divorced increased due to Covid-19	3.10	1.024	5	Med
5	Social events decreased due Covid-19	4.42	0.858	1	High
Average		3.81	0.778	High	

Table 8 shows that the social life dimension obtained a mean 3.81 with SD 0.778. The highest mean is 4.42 with SD of (0.858) was for the statement No. 5 in the table which says “Social events decreased due Covid-19”. The lowest mean reached 3.10 with SD of 1.024 was for the fourth statement on the table (8), which says “Divorced increased due to Covid-19”. Social life and social events decreased all over the world and many traditional also changed all over the world due to Covid-19.

Table 9. Means and Standard Deviations for paragraphs of (Health services) sorted descending according to the mean

No.	Items	Mean	Std. Deviation	Rank	Level
1	The procedure of getting the health services is simple and easy for Covid-19 infected	3.65	0.882	4	Med
2	The staff of health services responding to covid-19 infected questions	3.68	0.921	3	High
3	The health services is for all refugees	3.38	1.086	7	Med
3	Usually, they make periodically check for the refugees	3.00	0.960	8	Med
4	Availability of corona vaccinated from WHO in the hosting country for the refugees	3.40	1.051	6	Med
5	The procedure for Covid-19 infected is privacy confidentiality	3.75	0.915	2	High
6	There is a special procedure for the disable people and for the elderly people during Covid-19	3.83	0.901	1	High
7	The time for getting the health services during Covid-19 is suitable	3.42	0.995	5	Med
Average		3.51	0.710	Med	

Table 9 shows that health services dimension obtained a mean 3.51 with SD 0.710. The highest mean is 3.83 with SD of (0.901) was for the statement No. 7 in the table which says “There is a special procedure for the disable people and for the elderly people during Covid-19”. The lowest mean reached 3.00 with SD of 0.960 was for the forth statement on the Table 9, which says “Usually they make periodically check for the refugees”. It is clear from Table 9, there is a health services offered for the refugees in the hosting country but still the WHO needs to give more grants and services to the hosting country.

Table 10 shows that services dimension obtained a mean 4.03 with SD 0.648. The highest mean is 4.31 with SD of (0.780) was for the statement No. 4 in the table which says “There is periodically Sterilization campaigns for the health centers”. The lowest mean reached 3.84 with SD of 0.905 was for the first statement on the Table 10, which says “Refugees are receiving the instructions they have to follow to protect themselves from Covid-19”. It is clear from table (10), there are good services offered for the refugees in the hosting country and the rank of the services in the table for all questions is high.

Table 10. Means and Standard Deviations for paragraphs of (Services) sorted descending according to the mean

No.	Items	Mean	Std. Deviation	Rank	Level
1	Refugees are receiving the instructions they have to follow to protect themselves from Covid-19	3.84	0.905	6	High
2	Hygiene campaigns increased during Covid-19	4.12	0.771	3	High
3	Sterilization campaigns increased during Covid-19	4.19	0.817	2	High
4	There is periodically Sterilization campaigns for the health centers	4.31	0.780	1	High
5	You receive the answers from the service sector employees regarding Covid-19	3.84	0.764	5	High
6	There is a special services for the disable people and for the elderly people during Covid-19	3.85	0.845	4	High
Average		4.03	0.648	High	

23 Testing of Hypotheses

Table 11 shows the testing of all hypotheses. In this section the study tries to answer the research questions using Statistical Package of social science (SPSS).

Table 11. Testing of hypotheses

Hypo.	Indep Var.	Dep Var.	R	R ²	Adj. R ²	DF	F Cal.	F Sig.	B	Std. Error	T Cal.	T Sig.
Ho.1	Covid-19	All Dim.	0.45	0.20	0.20	102	26.43	0.00*	-0.22	0.044	-5.14	0.00*
Ho.1.a		Eco.	0.38	0.14	0.14	102	17.61	0.00*	-0.21	0.050	-4.19	0.00*
Ho.1.b		Edu.	0.36	0.13	0.12	102	15.73	0.00*	-0.27	0.068	-0.39	0.00*
Ho.1.c		So. Li	0.27	0.07	0.06	102	7.92	0.00*	-0.18	0.066	-2.81	0.00*
Ho.1.d		H.S.	0.37	0.14	0.13	102	16.60	0.00*	-0.23	0.058	-4.07	0.00*
Ho.1.c		Ser.	0.37	0.13	0.13	102	16.34	0.00*	-0.21	0.053	-4.04	0.00*

Sig. 0.00*

From Table 11, the values coefficient of correlation (R) for all study hypotheses are between (0.45–0.27), and the values of coefficient of determination (R squared) are between (0.207–0.073). The F value shows the impact of Covid-19 on all dimensions, indicated by (26.43) and its significance is (0.00) which is less than ($\alpha \leq 0.05$). This provides evidence to reject the main hypothesis that states “There is no significance statistical impact of Covid-19 on (Economic, Education, Social life, Health Services, and Services) and the alternative hypothesis is accepted. Also from Table 10, we notice that all sub-hypotheses have an impact on the dependent variables and are significance (0.00) which is less than ($\alpha \leq 0.05$).

24 Conclusion

The ‘once in a lifetime’ epidemic known as COVID-19 has affected hundreds of nations and resulted in tremendous loss of life and property. The impact of the coronavirus pandemic on international financial markets and financial globalization lasted well until 2020 and until now, as evidenced by some aspects, like the low oil prices that pandemic-related investors experienced. The world economy suffered a substantial decline due to a lack of control, which also led to the production machinery failing. China is the best illustration of this situation. Since refugees are a part of both the world and the poor community, they have a similar impact on the entire world. This study proves that the covid-19 affected the refugees in the hosting county in all economic indicators (Economic, Education, Social life, Health Services, and Services). The study recommends that the hosting country should with the help of the international community take many steps to decrease the negative impact of the covid-19 in the hosting countries.

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