Exploring the Perceptions and Experiences of Entrepreneurs regarding Technological Innovation and its Impact on Growth of MSMEs in UK: A Qualitative Study

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Abstract

The subject of entrepreneurship, technological innovation, and the need to explore the perceptions and experiences of entrepreneurs continue to attract mounting scholarly and public policy interest. Evidence indicates that entrepreneurship is a driver of economic growth and innovation. But despite this significance, entrepreneurship and its effect on innovation and organizational growth remains a relatively under-researched domain, especially with regard to MSMEs. This study sought to provide an in-depth understanding as well as explore the perceptions and experiences of entrepreneurs regarding technological innovation and its impact on the growth of MSMEs using a qualitative approach. By means of an explorative research design, data collection was done through the instrumentality of in-depth, in-person, semi-structured interviews of a sample of six individuals, two each from three segments: highly enterprising and technologically oriented MSMEs; firms with lesser technological innovation experience; and professional experts to provide balanced insight (a venture capitalist involved with small business and an academician in the field of entrepreneurship). The study also drew insights and conclusions from extant literature and theoretical frameworks to provide a nuanced understanding of the matter. Findings from this research revealed that entrepreneurship improves and promotes organizational growth by positively influencing technological innovation. Also, the lived experience shows that an entrepreneurial mindset, characterized by the ability to identify new opportunities, navigate business challenges, and take risks, equally increases the likelihood of adopting innovative technologies. Similarly, technological innovation, in turn, promotes business growth by enhancing the firm's competitive advantages in various aspects like financial planning and strategic market access. The findings also uncovered a number of challenges that hinder technological adoption in MSMEs, such as limitations in financing, technical expertise, and information. Given the foregoing, it is therefore recommended that investment in Research and development be entrenched in order to help drive continuous renewal and performance, in addition to the fact that governmental support through favourable policies and infrastructure is very much required.

Keywords: Entrepreneurship; Technological Innovation; Micro, Small, And Medium-Sized Enterprises (MSMEs); Organizational Growth: Sustainable Development Goals (SDGs)

INTRODUCTION

The role of innovation in driving the economy has gained substantial attention from both scholars and policymakers in recent years, according to Kickbusch et al., (2021). In agreement, Gummesson (2014), in the Journal of Business Research, highlights the significance of research areas such as entrepreneurship, technological innovation, and organizational growth. This commentary acknowledges the mounting interest in these domains. Numerous empirical studies, including the works of Kritikos (2014), Fritsch and Wyrwich (2016), Urbano et al., (2018), Neumann (2020), and Kim et al. (2022), have contributed to the existing literature on this subject. These studies consistently recognize entrepreneurship as a key driver and essential component for fostering economic growth. In particular, Kim et al., (2022)'s findings and insights from research efforts have shed light on the role of entrepreneurs in promoting innovation and sustaining dynamic Schumpeterian competition, ultimately leading to economic dynamism. In essence, these scholarly contributions have emphasized the crucial role that entrepreneurship plays in facilitating economic growth and its effects on various aspects of the economy. Furthermore, according to Kim et al., (2022), entrepreneurs are recognized not only as contributors to innovation but also as pivotal actors in stimulating competition and maintaining the overall dynamism of the economy. According to Lambe (2021), entrepreneurship refers to the process

of designing, launching, and running a new business or venture with the aim of making a profit. In agreement, Bauman and Lucy (2021) further expounded that an entrepreneur is an individual who identifies an opportunity or a need in the market and takes the initiative to create a business to fulfil that need or seize the opportunity. According to the authors mentioned above, entrepreneurship involves a variety of activities and skills, some of which include opportunity recognition, innovation and creativity, business planning, risk assessment and management, financial management, leadership and management, marketing and sales, as well as adaptability and perseverance. All in all, entrepreneurship plays a vital role in economic development, job creation, and innovation. According to Crew (2023), successful entrepreneurs have the potential to make a significant impact on society by introducing new products, services, and business models that can transform industries and improve people's lives.

According to Liu et al., (2020), technological innovation is the process of creating and implementing new or improved technologies that result in significant advancements, changes, or breakthroughs in various fields. Lambe (2014) further elaborates that this process involves the development and application of novel ideas, methods, techniques, or tools to solve problems, enhance efficiency, or meet specific needs. However, Casson and Della (2007) argues that technological innovation can manifest in different forms, including invention, improvement, disruption (which fundamentally alters existing industries, business models, or ways of doing things), and adoption (the widespread use and integration of existing technologies into various aspects of society). The adoption of technologies such as smartphones, social media platforms, and cloud computing options often leads to new opportunities, changes in behaviour, and shifts in industries. These views are supported by the "Abstracts Presented at the 2nd Annual Advancing Healthcare Innovation Summit: November 11, 2022, Cincinnati, OH" (2022), which suggests that technological innovation is driven by factors such as scientific research, technological advancements, market demands, and the need for improved solutions. Technological innovations have long been recognized as essential drivers of economic growth, improvements in living standards, and solutions to societal issues (Guston & Sarewitz, 2002). To facilitate such innovation, collaborative efforts, research and development initiatives, science and technology investments, intellectual property safeguards, and favorable government policies are crucial (Guston & Sarewitz, 2002). Additionally, the promotion of entrepreneurship and the creation of opportunities for individuals and businesses to cultivate and monetize novel ideas are emphasized as key drivers of progress and shaping the future (Crossan & Apaydin, 2009). Organizational growth refers to the expansion, development, or increase in size, capacity, and capabilities of an organization over time, according to Ameh et al., (2023). Miles et al. (1978) explain that organizational growth typically involves various aspects, such as resource acquisition, market expansion, revenue generation, customer base enlargement, workforce augmentation, product or service diversification, geographical reach expansion, and organizational structure evolution. However, organizational growth presents both opportunities and challenges. While it can lead to increased market share, economies of scale, enhanced competitiveness, improved financial performance, and greater influence, growth also brings complexities and new challenges (Massingham, 2014; Starr-Glass, 2019). These challenges include the need for effective management, organizational restructuring, increased coordination, and maintaining cultural alignment. Successful management of organizational growth requires strategic planning, efficient leadership, optimal resource allocation, market analysis, risk management, and adaptability to changing circumstances. It is important to ensure that growth aligns with the organization's vision, mission, values, and long-term objectives while also considering the impact on stakeholders, including employees, customers, and investors.

The interplay between entrepreneurship, technological innovation, and organizational growth is evident. Entrepreneurship drives technological innovation, which, in turn, fuels organizational growth. Organizations that embrace innovation and entrepreneurship experience a symbiotic relationship where growth stimulates further innovation, creating a virtuous cycle of growth and progress. Successful organizations recognize the importance of fostering an entrepreneurial culture and embracing technological advancements to remain competitive and sustain their growth trajectory. Technological innovation plays a vital role in the growth and development of micro, small, and medium-sized enterprises (MSMEs), particularly in the UK. Technological innovations have the potential to transform business processes, enhance productivity, increase competitiveness, and open up new market opportunities. It is important to examine entrepreneurs' perspectives and experiences regarding technological innovation and its impact on the growth of MSMEs in the UK. This includes considering the significance of technological innovation, adoption patterns, required support and resources, and the associated benefits that lead to increased operational efficiency, improved customer experiences, expanded market reach, and enhanced product or service quality. Additionally, investigating the impact of technological innovation on the growth of MSMEs and exploring future outlooks and opportunities, such as emerging trends in artificial intelligence, blockchain, or sustainable technologies, contributes to a deeper understanding of the role technology plays in driving MSME growth and informs strategies to support the adoption and implementation of innovative technologies. Empirical analyses by Fritsch and Wyrwich

(2016), highlight the positive relationship between entrepreneurial initiatives and economic growth. Regions with high entrepreneurial activity experience higher start-up rates, resulting in increased employment growth. Similarly, Ali and Anshur (2012), find that an increase in the number of entrepreneurs leads to a corresponding increase in economic growth. This effect is attributed to the entrepreneurs' propensity to innovate and demonstrate their skills. Despite its significant contributions to technological innovation and economic growth, entrepreneurship, particularly in the context of MSMEs, remains relatively under-researched (Marsden, 2001; Hillary, 2017). Therefore, there is a need for comprehensive investigations and detailed empirical analyses. This study aims to provide an in-depth understanding of the relationship between entrepreneurship and technological innovation and how it affects organizational growth, competitive strategies, and the overall survivability of MSMEs from the perspective of business owners. Therefore, by examining the dynamics between these elements, the study seeks to inform strategies to support the adoption and implementation of innovative technologies, driving the growth of MSMEs and contributing to economic prosperity.

By focusing on the perceptions, experiences, and narratives of entrepreneurs, this research approach aims to provide insights into the dynamics of technological innovation and its impact on the growth of MSMEs. The specific objectives of this study are as follows:

- i. Explore the subjective perceptions and motivations of entrepreneurs regarding the adoption and utilization of technological innovation in their MSMEs.
- ii. Investigate the experiences and narratives of entrepreneurs regarding the impact of technological innovation on the growth and success of their MSMEs.
- iii. Identify the challenges faced by entrepreneurs in the process of implementing and integrating technological innovation in their MSMEs and examine the strategies they employ to overcome these challenges.
- iv. Examine the role of government policies and support mechanisms in facilitating or hindering the adoption and utilization of technological innovation by entrepreneurs in MSMEs, and explore their perceived influence on organizational growth.

This study provides an understanding of the intricate relationship between technological innovation and MSME growth by delving deep into the subjective experiences and perspectives of entrepreneurs. The findings emphasize that entrepreneurship acts as a catalyst for organizational growth through the promotion and adoption of innovative technologies. The study highlights that technological innovation strengthens key aspects of MSMEs, such as financial planning, market access, and operational efficiency, ultimately driving business expansion. However, significant challenges hinder technological adoption, including limited financing, lack of technical expertise, resistance to change, and negative technology stereotypes. To overcome these barriers, the study recommends prioritizing research and development for continuous improvement and performance enhancement while advocating for government support through favourable policies and infrastructure development. By contributing to existing knowledge, this research deepens our understanding of the critical factors shaping the entrepreneurial landscape in the context of technological innovation and MSME development.

LITERATURE REVIEW

This literature review aims to comprehensively explore the perceptions and experiences of entrepreneurs regarding technological innovation and its impact on the growth of micro, small, and medium-sized enterprises (MSMEs) within the context of their businesses. To achieve this goal, existing and emerging scholarly works on entrepreneurial activity, technological innovation, and organizational growth in MSMEs are analysed. The literature review reveals that organizational growth in MSMEs can be associated with innovation through entrepreneurial initiatives. However, this finding raises fundamental research questions concerning the facilitators and barriers to entrepreneurship and the institutional factors that promote innovation, subsequently driving organizational growth. Additionally, the review highlights the need to examine the influence of entrepreneur-led technological innovations on employee skill requirements and future work paradigms. These questions require input from professionals, experts, MSME managers, and owners who possess firsthand experience in these dynamics. Consequently, this study adopts a qualitative interview approach to collect their stories, which will be followed by an objective data thematic analysis as part of an exploratory research design.

Conceptual Review

Entrepreneurship

According to Carree & Thurik (2010), the study of entrepreneurship in the field of business and management has garnered significant interest due to the complex and diverse characteristics of the market. In today's competitive industry, companies must consistently develop innovative product concepts to maintain and grow their market share. Additionally, global challenges and emergencies, such as global warming, environmental deterioration, the pursuit of healthy lifestyles, and the recent COVID-19 pandemic, further emphasize the importance of change and innovation in conducting business in the modern era. Kumar et al., (2020), as well as Carree and Thurik (2010), acknowledge that global challenges have increased the need for entrepreneurship, prompting businesses to adapt quickly to evolving conditions. The COVID-19 pandemic specifically necessitated the adoption of new working methodologies and the reconceptualization of product and service delivery channels. This increased emphasis on entrepreneurship and innovation reflects their fundamental importance in a rapidly changing global landscape. While entrepreneurs face substantial risk and uncertainty, according to Brinckmann et al., (2010), their role remains crucial in driving economic growth and development. Audretsch and Link (2012), in agreement, further emphasize the significance of supportive policies and institutions in nurturing entrepreneurship. They argue that governments play a substantial role in fostering an entrepreneurial ecosystem by facilitating access to financial resources, reducing regulatory barriers, and supporting innovation and technology transfer. Integrating these perspectives reveals that entrepreneurship is not only the subject of substantial scholarly investigation but also a pivotal catalyst for economic advancement (Carree & Thurik, 2010). The interconnectedness between entrepreneurship, the pursuit of societal needs, and the evolving business landscape underscores the importance of entrepreneurs in shaping the future, as Audretsch & Link (2012) explain. In light of ongoing market evolution and persistent global challenges, entrepreneurs must effectively navigate the intricacies of entrepreneurship while embracing innovation and adaptability to thrive in an ever-changing global landscape.

The term entrepreneurship encompasses various definitions. Park (2017) presents some of these definitions, which include:

- i. Seizing opportunities irrespective of available resources,
- ii. The act of commercializing opportunities puts them at risk.
- iii. Establishing new businesses through managing innovation, and
- iv. Recombining or redistributing resources with innovation, an enterprising spirit, and risk-taking to create new value

These definitions share two common elements: the unique ability to identify business opportunities and a mix of personal attributes that drive individuals to exploit these opportunities while comprehending the associated risks. Kumar et al. (2020) also agree with Park, highlighting that entrepreneurs must effectively and successfully identify and exploit opportunities for innovation to create lasting competitive advantages. However, Howard Stevenson, the creator of entrepreneurship studies at Harvard Business School, offers a definition that aligns more closely, as detailed in Eisenmann (2013)'s work. Stevenson defines entrepreneurship as the act of pursuing opportunities beyond the resources one controls. In this context, "pursuit" implies a singular focus and a sense of urgency in acquiring limited resources. "Opportunity" refers to a novel offering that can be a pioneering product, a new business model, an improved version of an existing product, or selling an existing product in a new market segment. Beyond controlled resources, entrepreneurs face resource constraints, often relying on personal funds to launch and sustain their ventures until they become self-sustaining. Alternatively, some entrepreneurs may mobilize funding from external sources, such as creditors, when personal funds are insufficient. Shane and Stuart (2002), report that entrepreneurs encounter significant uncertainty related to customer adoption of their offering (demand risk), attracting partners and employees to execute their plan (execution risk), securing adequate capital under favorable terms (financing risk), and obtaining the necessary technology for venture implementation (technological risk). To obtain funds from reluctant resource owners, Howard Stevenson uses four tactics as described in Eisenmann's (2013) work: lean experimentation, staged investing, partnering, and storytelling. Lean experimentation involves using limited resources to invest in "minimum viable products"—the fewest set of activities needed to thoroughly test a proposed business model. This approach reduces risks and assures potential investors or creditors of the venture's viability. Staged investing allows entrepreneurs to spend only the necessary resources for each phase before committing additional resources to subsequent phases, effectively managing risks in stages. Through partnerships, entrepreneurs utilize the resources of other organizations, shifting risks to financially capable partners. Finally, storytelling involves creating a compelling vision of the proposed venture to inspire resource owners to commit resources despite the inherent risks.

Van Praag and Versloot (2007) propose an alternative perspective that argues that firms have the potential to exhibit entrepreneurial characteristics. Entrepreneurial firms are characterized by being new market entrants, having a limited existence of less than seven years, and employing fewer than 100 individuals. These characteristics, derived from the

theoretical framework of Schumpeterian entrepreneurship (Vaz-Curado & Mueller, 2019), conceptualize entrepreneurs as individuals who drive economic progress by innovating new products and production techniques. It is important to note, according to Ledzik (2013), that these innovations can bring significant changes to various aspects of an industry, such as the reorganization of production patterns, advancements in technological knowledge, and exploration of new markets or sources of supply. Entrepreneurs, as highlighted by Langlois (2007), are often characterized as new market entrants or young firms, introducing novel traditions within their respective industries. Established businesses, on the other hand, frequently rely on established routines and bureaucratic structures, leading to inertia and constraining their ability to generate innovative products or services. Even when individuals actively pursue new opportunities, they often focus solely on aspects relevant to their current operations. Smith et al. (2016) expand on this concept, stating that entrepreneurship involves venturing beyond familiar boundaries by integrating disparate or remote components - a task that presents challenges for well-established organizations. Therefore, for an organization to be entrepreneurial, it is crucial for it to be a nascent entity without established routines, memories, or traditions that may impede its potential.

Importance of Entrepreneurship

Van Praag and Versloot (2007) conducted a comprehensive examination of the value of entrepreneurship and identified its contributions in four key areas; employment, innovation, productivity and growth, and utility. The authors synthesized findings from various studies to support their analysis. The first area of contribution, employment, was found to be positively influenced by higher rates of startup activity. This outcome can be attributed to two main factors: the increased stock of firms in the economy and the faster growth rate exhibited by smaller firms. The presence of more entrepreneurial ventures leads to a greater number of employment opportunities. In addition to fostering employment, entrepreneurs were found to be instrumental in generating higher-quality innovations in a more efficient manner compared to their non-entrepreneurial counterparts. Furthermore, these innovations demonstrated higher rates of commercialization. This implies that entrepreneurs not only create innovative solutions but also succeed in bringing them to market, maximizing their impact and potential for economic growth. The contribution of entrepreneurial firms to productivity becomes particularly evident as they mature in the market. As these firms establish themselves and gain experience, they become more adept at optimizing their resources and operations, leading to increased productivity. This finding emphasizes the importance of supporting the growth and development of entrepreneurial ventures to harness their potential for driving productivity gains. Turning to the concept of utility, the study revealed an intriguing pattern. While entrepreneurs tend to have lower median incomes compared to their non-entrepreneurial counterparts, they report higher levels of job and life satisfaction. This suggests that although entrepreneurs may face greater income volatility and insecurity, they derive intrinsic benefits from their entrepreneurial pursuits that contribute to their overall well-being and fulfillment.

Building on the work of Van Praag and Versloot (2007), Luke et al. (2007) conducted a similar investigation in the context of New Zealand and Australia, examining the benefits of entrepreneurship at various levels: individual, organizational, and national. At the individual level, entrepreneurs were found to derive several benefits, including autonomy, independence, job security, faster promotion and career advancement, and improved financial security through enhanced remuneration packages, bonuses, and rewards. These findings highlight the attractiveness of entrepreneurship as a career path and shed light on the personal advantages associated with venturing into entrepreneurial endeavors. At the organizational level, entrepreneurial firms were found to enjoy numerous benefits. These include gaining a competitive advantage, capturing higher market share, achieving greater rates of innovation and productivity, and attaining improved financial performance, as evidenced by higher revenue and profit figures. These outcomes underscore the strategic importance of entrepreneurship for organizations, as it can drive their growth, success, and long-term sustainability. At the national level, entrepreneurship plays a pivotal role in stimulating economic development. It leads to the introduction of new products and markets, facilitates a more efficient allocation of resources, and enhances living standards through job creation. Furthermore, higher productivity levels in entrepreneurial firms generate increased tax revenues that can be allocated to other economic activities and social welfare programs, contributing to overall societal well-being. The studies by Van Praag and Versloot (2007) and Luke et al. (2007) provide a critical analysis of the multifaceted contributions of entrepreneurship. By examining entrepreneurship's impact on employment, innovation, productivity, growth, and utility at various levels, these studies shed light on the broad-reaching benefits associated with entrepreneurial activities. The findings underscore the significance of entrepreneurship for individuals, organizations, and nations, emphasizing its potential as a catalyst for economic development and social progress..

Technological Innovation

In recent years, according to Coccia (2021), the role of technology as a catalyst for innovation in businesses of all sizes has become increasingly prominent. Not only does technology drive business objectives, but it also addresses societal challenges and enhances the overall human condition. When we speak of innovation within the business context, we refer to the introduction of new products or processes into the market that significantly differ from existing ones (Coccia, 2021). Such innovation, as agreed by Damanpour and Aravind (2012), can disrupt established practices, render them obsolete, or refine them to create new markets. Kogabayev and Maziliauskas (2017), define innovation as the generation of new ideas and their implementation into new products, processes, or services, leading to dynamic economic growth, increased employment, and profit generation. This definition emphasizes two crucial attributes of innovation: systemic and continuous change, as well as cross-functionality. The authors further classify innovation into three generic types: technological, market, and administrative. Technological innovation encompasses the components, methods, techniques, or processes used to create a product, including its design and production. It encompasses the development of new goods, the establishment of new markets for existing products, the reorganization of production methods, the discovery of new sources of raw materials, and the development of more efficient production techniques. Market innovation, on the other hand, focuses on aspects related to the product, place, price, and promotion. It involves strategies to introduce new products into the market, expand the reach of existing products, optimize pricing strategies, and effectively promote products to target customers. Administrative innovation involves changes in strategy, systems, structure, and people within an organization. It emphasizes the exploration of new approaches to management, decision-making processes, organizational structures, and the development of a skilled workforce.

Today, technology integration has emerged as the primary source of innovation for businesses, regardless of their size (Coccia, 2021). Technological innovation not only drives business objectives but also addresses societal challenges and improves the overall human condition. By introducing new products or processes into the market that exhibit radical design differences from existing ones, businesses engage in innovative practices that can disrupt established norms and create new markets (Coccia, 2021; Damanpour & Aravind, 2012). Teece (2018) contends, however, that these technological innovations rely on advancements in technology to achieve their goals. The pivotal role of technology in driving innovation in businesses is evident, enabling the introduction of new products, the refinement of existing practices, and the creation of new markets. The categories of innovation, encompassing technological, market, and administrative aspects, contribute to the growth and evolution of businesses and society as a whole. Erturk (2009), provides a classification of four types of technological innovation: incremental, modular, architectural, and radical. Incremental innovation involves minor improvements to existing products, organizational processes, and technologies. Modular innovation occurs when significant changes are made to existing products and organizational practices without affecting their existing configurations. Architectural innovations involve reconfiguring existing products or practices in new ways, while radical innovation entails revolutionary changes that depart significantly from current products, practices, and technologies. Technological innovation can offer significant competitive advantages for firms. Companies become more competitive when they can create higher-quality products or services at a lower cost than their competitors. Moreover, technological innovations are transforming the nature of work. Some changes, such as the adoption of remote working technologies during the COVID-19 pandemic and lockdown, are driven by necessity. Other innovations, such as big data and artificial intelligence, stem from capability. Thus, understanding the relationship between entrepreneurship and technological innovation is crucial for organizational growth, particularly for micro, small, and medium-sized enterprises (MSMEs). Increased entrepreneurship and technological innovation will determine the speed of job automation and the creation of new jobs.

Academic and public policy circles have shown considerable interest in gaining a deep understanding of entrepreneurship, technological innovation, and their influence on organizational growth. However, the existing literature reveals notable gaps that necessitate empirical analysis from a qualitative research perspective. Previous studies have predominantly focused on quantitative aspects, such as the relationship between "Entrepreneurship and Economic Growth," which employs observable variables to draw statistical inferences and identify patterns or correlations. Unfortunately, these studies have overlooked the intricate dynamics within MSMEs, according to Stoica et al., (2020). Consequently, understanding of how small businesses innovate, acquire knowledge, and foster growth remains limited. To address these gaps, it is crucial to adopt a unique qualitative research approach that delves into the essence of entrepreneurship, technological innovation, and organizational growth, with a particular focus on MSMEs. Such an approach can provide invaluable insights into the underlying processes through which entrepreneurship propels technological innovation and its subsequent effects on the growth and development of organizations. Furthermore, it is important to recognize the technological implications for MSMEs and their impact

on their growth trajectory. As technology increasingly permeates various sectors, understanding its impact on the labor market becomes indispensable. This research seeks to fill the existing gaps in the literature and contribute to a deeper understanding of entrepreneurship and technological innovation, as well as their collective influence on the growth and development of organizations, especially MSMEs. The study will scrutinize the innovative processes within MSMEs, their strategies for acquiring knowledge, and the subsequent impacts on their growth trajectory. Additionally, it will shed light on the technological implications for MSMEs and their ramifications for the dynamics of the labour market. The primary objective of this study is to enhance understanding of entrepreneurship, technological innovation, and organizational growth by addressing the gaps in the existing literature. Through a qualitative research lens, the study will examine these intertwined factors to gain insights into how small businesses engage in innovation, acquire knowledge, stimulate growth, and navigate the ever-evolving technological landscape. Moreover, it will consider the broader implications for the labour market.

Empirical Literature

Creswell (2018), asserts that qualitative research is based on the principles of ontology and epistemology, which recognize the existence of objective reality and the construction of knowledge and valid evidence. Ontology explores accepted meanings and realities in relation to objective reality, while epistemology examines knowledge construction and the acceptance of valid evidence. The descriptive and interpretative nature of qualitative research enables the amplification of marginalized groups' voices. It also facilitates the generation of acceptable theories that explain behaviour and experiences, providing insights into how constructs influence outcomes. The knowledge gained from qualitative research can aid decision-makers in developing clear business methods and practices to address identified issues.

The United Nations (UN, 2023), emphasizes the pivotal role of MSMEs in achieving the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs). Jiménez et al., (2021) provide a comprehensive analysis of this concept in their paper titled "Enhancing the Adoption of Sustainable Development Goals by Small and Medium-sized Enterprises through the Implementation of a Cluster Management Organization." MSMEs contribute to poverty reduction by generating employment opportunities and fostering economic growth. They are considered catalysts for creating decent jobs and promoting entrepreneurship. Furthermore, MSMEs are recognized as significant contributors to food production and as facilitators of meaningful engagement in the economy and society. Shelly et al., (2020) argue that MSMEs play a crucial role in poverty alleviation through job creation and economic expansion. They also promote employment opportunities, entrepreneurial endeavours, and meaningful engagement within the economy and society. However, Tambunan (2021), argues that the substantial contributions of MSMEs are overshadowed by their vulnerability to socioeconomic challenges, as exemplified by the adverse impact of the COVID-19 pandemic. Therefore, it is essential to acknowledge the significance of the United Nations General Assembly resolution "A/RES/74/270" and the Secretary-General's report on "Shared Responsibility, Global Solidarity: Responding to the Socio-Economic Impacts of the COVID-19 Pandemic" (UN, 2023). These documents emphasize the necessity of prioritizing and strengthening the resilience of MSMEs. Urbancova (2015), and the UN Department of Economics and Social Affairs (UNDESA, 2020), classify MSMEs based on the number of employees, with micro enterprises employing 1 to 9 workers, small enterprises employing 10 to 49 workers, and medium enterprises employing 50 to 249 employees. It is estimated that there are between 365 and 445 million MSMEs worldwide in emerging markets, with a significant portion falling under the micro profile (Raza et al., 2022). Economic studies and existing literature widely acknowledge the contribution of MSMEs to income generation and employment creation.

Raza et al., (2022) estimate that the number of MSMEs in emerging markets globally ranges from 365 to 445 million, with approximately 25–30 million categorized as SMEs and 55–70 million falling under the micro profile. The significant contribution of MSMEs to income generation and employment creation is extensively recognized in economic studies and the existing body of literature. UNDESA (2020) data suggests that a substantial proportion of new job opportunities in the formal sector are attributed to MSMEs, which constitute approximately 90% of these positions. In developing nations, MSMEs predominantly operate within the informal sector, contributing to the financial sustenance of low-income households. Singh and Kalirajan (2020), emphasize the importance of MSMEs in job creation and economic growth, particularly in developing nations, based on their research findings. UNDESA (2020), reports that about 70% of the labour force in developing nations are engaged in the informal sector, comprising self-employed individuals and employees of unregistered enterprises. These individuals often lack social safeguards and encounter difficulties when addressing employment misconduct through official channels. Cling (2015), highlights that a significant number of individuals in informal labor face precarious working conditions and limited access to social services. Despite these challenges, MSMEs provide a legal structure that enables individuals engaged

in the informal sector to acquire advantages and attain a viable income (UNDESA, 2020). Scholarly investigations, such as those conducted by Mohammed (2018) and Endris and Kassegn (2022) in Ethiopia, shed light on the significant contribution of MSMEs to poverty alleviation and employment generation. Nursini (2020), examined the potential of MSMEs to reduce poverty in Indonesia between 1997 and 2018, measuring poverty levels using indices such as the Poverty Severity Index, Poverty Gap Index, and Head Count Index. The findings indicate that MSMEs have both direct and indirect impacts on poverty reduction. Similarly, Gherghina et al., (2020) studied the role of MSMEs in driving economic growth through innovation and investment in Romania between 2009 and 2017. Their findings suggest that the turnover of these enterprises depends on their level of investment. Nguyen and Canh (2021), support this view, noting that many small firms face constraints in research and development due to limited funding. Governments have implemented various programs to enhance the competitiveness and innovation of SMEs, including technology extension services, entrepreneur training, the provision of testing facilities and tool rooms, and organizing trade fairs to expand their access to new markets. Successful initiatives have been implemented by countries like India through the National Manufacturing Competitiveness Program and Singapore through support for hiring external experts (ADB, 2009; Enterprise Singapore, 2023).

Certain MSMEs have the capacity to engage in innovation through product re-engineering or the adoption of innovative organizational strategies to enhance productivity (Starr-Glass, 2019). The efficacy of this approach is particularly observed in developed nations like the United Kingdom, as emphasized by Rosenbusch et al., (2011). Ardic et al., (2011) argue that MSMEs employ niche strategies that prioritize product quality and firm flexibility to compete against larger enterprises. However, Audretsch and Link (2012), emphasize the financial uncertainties associated with innovation and investment. Failure to effectively manage these risks may lead to a substantial likelihood of financial insolvency.

Theoretical Perspectives

Schumpeterian Theory of Entrepreneurship

The concept of entrepreneurship has undergone a significant transformation since the introduction of J. A. Schumpeter's ideas. This challenges the prevailing notion that entrepreneurship is solely concerned with the successful establishment and operation of a business. According to Mehmood et al., (2019), Schumpeter emphasized the critical role of entrepreneurship in driving continuous economic growth through innovation. This perspective revolutionized the understanding of entrepreneurship and its impact on economic development. Schumpeter argued that entrepreneurs play a vital role in achieving economic growth by introducing innovative ideas, devices, or methods. Upadhyay and Rawal (2018) state that this process of innovation leads to the economic development of firms, regions, or even entire countries. It generates profits and addresses broader societal objectives such as poverty alleviation and social welfare provision. To describe the disruptive influence of entrepreneurs in industries through the creation of new products or processes, Schumpeter coined the term "creative destruction." Schumpeter's concept of "creative destruction" is further explained in Tribe's (1978) book, "Capitalism, Socialism, and Democracy." According to Tribe, it is an ongoing process that continually disrupts and replaces the existing economic structure of an industry with a new one. These cumulative changes constitute innovation, which results in a preference for innovation-oriented markets over traditional approaches like price competition. Firms engage in technological competition to establish temporary monopolies, allowing them to reap abnormal profits before facing competition (Upadhyay & Rawal, 2018).

In order to ensure success in driving innovation, Schumpeter identified five key traits that entrepreneurs must possess. These traits, as outlined by Upadhyay and Rawal (2018), include the will and energy to embrace new processes and methods, the ability to endure criticism, foresight and imagination to drive innovation, the courage to implement the innovation, and the willingness to accept and overcome failure. These traits form the foundation for entrepreneurial success and enable individuals to navigate the challenges associated with innovation and economic development. Furthermore, Schumpeter drew a distinction between inventors and innovators. Kaya (2015) explains that while inventors primarily focus on introducing new products, operating methods, or production techniques driven by technical aspects, innovators utilize existing products or techniques to create something new, primarily driven by economic prospects. An individual can embody both the roles of an inventor and an innovator. This differentiation highlights the various factors that contribute to technological change, including invention, innovation, and diffusion. Invention involves generating ideas within one's field of expertise, while innovation focuses on developing these ideas into marketable processes or products. The type of innovation pursued by entrepreneurs or firms depends on the technological and economic conditions within their respective industries or markets. Subsequently, the diffusion phase occurs, during which the innovation spreads throughout the market, leading to economic growth and employment creation.

However, despite its significant contributions, the Schumpeterian theory has faced criticism. Upadhyay and Rawal (2018) argue that it places excessive emphasis on the innovation function while neglecting other crucial roles and responsibilities of entrepreneurs. It is important to acknowledge that management and organizational skills and capabilities are equally essential in realizing innovations and inventions. Additionally, the theory appears to underestimate the risks involved, which contradicts the typical entrepreneurial practice of assessing risks and uncertainties to determine the viability of a venture or product. Proper risk assessment enables entrepreneurs to develop appropriate strategies to mitigate potential problems. In conclusion, J. A. Schumpeter's perspective on entrepreneurship introduced a paradigm shift by highlighting the central role of innovation in driving economic growth. His concept of "creative destruction" emphasized the disruptive impact of entrepreneurs in industries through the introduction of new products or processes. However, criticisms have emerged regarding the theory's focus on innovation at the expense of other entrepreneurial responsibilities and its apparent underestimation of risks. Nonetheless, Schumpeter's ideas continue to shape the understanding of entrepreneurship and its contribution to economic development in contemporary discourse.

Resource-based View (RBV) Theory

According to Kellermanns et al. (2014), the emergence of the resource-based view (RBV) in organizational and management disciplines can be attributed to the seminal works of Edith Penrose in 1959. Penrose emphasized the crucial role of strategic resources in facilitating or inhibiting organizational growth. These strategic resources possess inherent value that enables the creation of customer value or cost reduction. Moreover, they exhibit rarity, making them inaccessible to competitors and establishing a formidable competitive advantage for the organization. Additionally, strategic resources are difficult to substitute or imitate, further consolidating the organization's market position. Consequently, the RBV suggests that firms can transform their organizational advantages into strategic resources. While the traditional perspective attributes this resource transformation to managers acting in the best interest of owners, contemporary research acknowledges the entrepreneurial role in driving organizational renewal through the introduction of new ideas, products, or processes. Entrepreneurs, whether acting independently or within a corporate structure, contribute to organizational evolution. This perspective finds support in Madhani's work (2009), which affirms that strategic resources must satisfy the VRIN criteria: value, rarity, imperfect imitability, and nonsubstitutability. These criteria ensure that resources generate economic benefits, are difficult to obtain or replicate, and lack viable alternatives that can yield comparable performance levels. Contemporary scholarship has critically examined and expanded upon the RBV, resulting in a deeper understanding of its implications for organizational success. One notable contribution is Barney's study (1991), which introduces the concept of "strategic factor markets" as a means for firms to acquire and exploit strategic resources. By recognizing market transactions, internal development, and strategic alliances as avenues for resource acquisition, Barney extends the RBV framework and highlights diverse strategies for resource utilization.

Furthermore, Wernerfelt's concept of "resource heterogeneity" (1984) complements the RBV by emphasizing the variations in resource endowments across organizations. Wernerfelt argues that differences in resource allocation stemming from historical paths or strategic choices contribute to sustained competitive advantages. This perspective underscores the dynamic nature of resources and the role of resource heterogeneity in strategic management. Comparisons between the RBV and alternative theories, such as the market-based view (MBV), have sparked productive debates and investigations. While the RBV emphasizes internal resources and capabilities, the MBV focuses on market interactions and customer-centric strategies, according to Priem & Butler (2001). These contrasting viewpoints raise questions regarding the optimal balance between internal resource exploitation and external market responsiveness for long-term organizational success. In conclusion, the RBV has made significant contributions to organizational and management disciplines by highlighting the importance of strategic resources in gaining and sustaining competitive advantages. Contemporary research has expanded upon this perspective by examining the VRIN criteria, exploring different strategies for resource acquisition and utilization, and emphasizing the role of resource heterogeneity. Comparisons with alternative theories further enhance our understanding of the complexities involved in managing organizational resources.

Agency Theory

The Agency theory, initially introduced by Alchian and Demsetz in 1972 and further expanded upon by Jensen and Meckling in 1976, has its roots in economic theory. It explores the dynamics of agency relationships that arise when principals (business owners or entrepreneurs) hire agents or stewards to carry out tasks on their behalf. This delegation of decision-making authority and division of labor is essential for efficient economic activity, according to Umobong & Ironkwe (2017). However, this relationship also introduces the risk that agents may deviate from the principal's

objectives and pursue their own self-interest while performing their duties. This risk, as Fiet (1995) explains, is known as agency cost, stemming from the principal's uncertainty about the agent's alignment with contractual expectations. Given the information asymmetries and self-interest involved, principals have limited reasons to trust their agents based on a simplified agency model. To mitigate these challenges, mechanisms must be established to balance the interests of principals and agents, thereby reducing information asymmetries and opportunistic behavior. Agents often have motives that differ from those of the principals, such as monetary incentives, career advancement, and relationships with other parties. Consequently, agents may exhibit undue optimism regarding an entity's economic performance or their compliance with contractual obligations. In contrast, agents may also be less risk-averse compared to principals, resulting in conflicts of interest that prompt information manipulation (Umobong & Ironkwe, 2017).

Information asymmetries become particularly troublesome when agents possess superior information compared to principals. Such conflicts of interest can lead to the adoption of advanced accounting techniques or financial statement manipulation, which may eventually lead to corporate bankruptcy. Agents may engage in opportunistic behavior to meet debt covenants, enhance compensation, manipulate income figures, or reduce political expenses (Umobong & Ironkwe, 2017). The stewardship function of accounting, wherein agents communicate the entity's operations to principals, is a fundamental concept in agency theory, according to Revsine (1991). This theory enables entrepreneurs to identify existing gaps in financial reporting and, where possible, alter accounting data to align with their objectives. Understanding the purpose and significance of entrepreneurship, technological innovation, and organizational growth can be achieved through the lens of agency theory. It is widely recognized as a legitimate economic theory of responsibility and is extensively employed in the analysis of organizations within contemporary accounting research (ICAEW, 2005). The agency theory forms the foundation for this research due to its effectiveness in understanding the dynamics of entrepreneurial development. By identifying potential conflicts of interest between agents (such as management and financial report preparers) and principals, agency theory sheds light on the drivers behind agents' actions and their relationship with business owners (ICAEW, 2005).

Diffusion of Innovation (DOI) Theory

Diffusion of innovation theory encompasses a multifaceted process that encompasses the adoption and acceptance of new ideas or technologies by individuals. At the onset, when an innovation enters the market, only a limited number of individuals are inclined to adopt and utilize it. Over time, through diverse communication channels, these early adopters disseminated awareness about the innovation, thereby persuading more people to experiment with it. This continual process of adoption and persuasion ultimately leads to the attainment of a critical mass, resulting in the diffusion of the innovation throughout the market until it reaches saturation. Everette Rogers, a renowned scholar in the diffusion of innovation field, conducted extensive research on this process and introduced a framework that categorizes individuals into five distinct adopter categories: innovators, early adopters, early majority, late majority, and laggards (Kaminski, 2011).

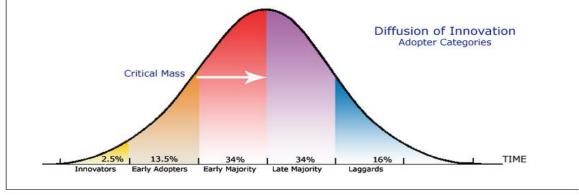


Figure 1: Innovation Adopter Categories. Source: Kaminski (2011)

Innovators form the initial group that embraces innovation, often characterized by their propensity to take risks and embrace novelty. Early adopters, in contrast, are individuals who adopt the innovation following the innovators but before the majority of the population. They typically serve as influential opinion leaders, possess a high degree of social status, and actively seek out novel ideas. Contemporary research has expanded upon Rogers' framework, offering valuable insights into the diffusion of innovation. Johnson et al., (2019) conducted a notable study that delved into the role of social networks in the adoption process. The study emphasized the significance of interpersonal

relationships and network structures in shaping the diffusion patterns of innovation. It revealed that individuals are more likely to adopt an innovation when they observe their close peers adopting and benefiting from it. These findings shed light on the social dynamics involved in the diffusion process, contributing to a deeper understanding of how innovation spreads within communities. Furthermore, the digital age has revolutionized the landscape of innovation diffusion. The advent of social media platforms and online communities has enabled the rapid global dissemination of information and opinions about innovations. Consequently, a new breed of influencers, commonly referred to as "digital influencers" or "online opinion leaders," has emerged. These individuals have amassed large followings and possess substantial influence over the purchasing decisions of their audience. Their endorsement or critique of an innovation can profoundly impact its adoption rate. For example, Chen et al., (2022) conducted a study analyzing the influence of YouTube influencers on the adoption of beauty products. The findings revealed that positive recommendations from popular YouTube influencers significantly increased the likelihood of individuals adopting those products.

Furthermore, the diffusion of innovation is not solely determined by individual characteristics or network structures but is also shaped by external factors such as cultural, economic, and regulatory contexts. Li et al., (2021) conducted a study exploring the role of cultural factors in the adoption of sustainable energy technologies. The study found that cultural values, norms, and beliefs play a pivotal role in influencing individuals' willingness to adopt these innovations. Consequently, the study underscored the importance of adopting a culturally sensitive approach to diffusion strategies, emphasizing the need to align innovations with the values and aspirations of target populations. In summary, the diffusion of innovation entails the gradual adoption and dissemination of new ideas or technologies. Everette Rogers' framework of adopter categories provides a foundational understanding of how individuals embrace innovation. However, contemporary research has expanded upon this framework by examining the role of social networks, digital influencers, and cultural factors in shaping the diffusion process. Through critical analysis and comparison of these recent studies, we can develop a more comprehensive understanding of the complexities involved in the diffusion of innovation. This knowledge, in turn, enables the development of effective strategies for successful adoption and market saturation.

METHODOLOGY

This research was conducted to gain an in-depth understanding of the perceptions and experiences of entrepreneurs regarding technological innovation and its impact on the growth of MSMEs within their business contexts. To address the research gaps, an exploratory research design will be utilized, employing a qualitative interview approach followed by objective data thematic analysis. The methodology employed in this study is based on Saunders' Research Onion, consisting of five layers (Saunders et al., 2019), and adopts an interpretivist research philosophy with a qualitative research approach. Qualitative research, as described by Braun and Clarke (2019), is characterized by its descriptive and interpretative nature, enabling an investigation of complex phenomena from the participants' perspectives. This approach recognizes the existence of an objective reality while emphasizing the process of knowledge construction and the use of valid evidence (Creswell, 2018). The primary objective of this study is to utilize the aforementioned approach to illuminate participants' experiences and viewpoints while concurrently developing theoretical frameworks that explain their behaviours and outcomes (Charmaz, 2014).

The research methodology employed in this study involves the use of semi-structured interviews, which offer a versatile and comprehensive means of gathering data related to the research subject. Conducting these interviews aims to collect comprehensive qualitative data from the participants, which will then undergo thematic analysis to identify recurring patterns, themes, and meanings within the dataset. The knowledge derived from this research will be valuable in providing decision-makers with insights to effectively address the identified issues by developing transparent business methods and practices. This study aims to contribute to the existing literature and provide insights applicable to real-world contexts, particularly for MSMEs. By examining the perspectives of interviewees on entrepreneurship, technological innovation, and organizational growth in MSMEs, it strives to offer practical implications and recommendations for these entities in their pursuit of growth and success.

Methodological Approach

To gain an understanding of how entrepreneurs perceive and experience technological innovation and its impact on the growth of MSMEs within their business context, the present research was conducted. The aim was to focus on the perceptions, experiences, and narratives of MSME managers, owners and professional experts. To ensure reliable insights, a purposive sampling technique was employed, selecting a sample of six individuals with first-hand experience in the dynamics of entrepreneurship and technological innovation:

- i. Highly enterprising and technologically oriented MSMEs 2 participants
- ii. Firms with lesser technological innovation experience 2 participants

iii. Professional experts who will provide balanced insight – 2 participants

To ensure that participants had relevant knowledge and experience, a purposeful sampling approach was employed (Palinkas et al., 2015). The first step involved identifying MSMEs in a specific locality in the UK, including startup hubs and enterprises. A comprehensive list of these firms was generated, followed by the selection of participants who met specific criteria. The criteria for participant selection aimed to capture a diverse range of perspectives on understanding entrepreneurship, technological innovation, and organizational performance. Therefore, highly enterprising and technologically oriented MSMEs were chosen, as well as firms with limited technological innovation experience. By interviewing managers and supervisors from these different types of organizations, the study sought to gain insights into the benefits, drivers, and impacts of the entrepreneurship-technological innovation nexus within their business context. Data collection was conducted through in-depth interviews, which were primarily conducted virtually due to the limited availability of participants. In qualitative research, interviews can be structured, semi-structured, or unstructured (Gill et al., 2008). Structured interviews involve a predetermined set of questions and are relatively easy to administer, but they limit the depth of exploration. Unstructured interviews provide more flexibility but can be challenging to control and time-consuming. Semi-structured interviews strike a balance between structure and flexibility, making them suitable for this study.

The semi-structured format allowed the researcher to probe deeper into the interviews and extract the required information while accommodating the time constraints of the participants. The participants, being busy individuals, had limited availability, and conducting semi-structured interviews ensured that the interviews could be conducted within their time constraints. The data collection process was carried out virtually via Microsoft Teams. This choice of data collection method enabled a more personal and interactive engagement with the participants, facilitating a deeper exploration of their perspectives on the correlation between entrepreneurship, technological innovation, and organizational growth. This study employed a purposeful sampling approach to select participants with relevant knowledge and experience in the correlation between entrepreneurship and technological innovation. By interviewing managers from highly entrepreneurial and less technologically enhanced firms, the study gained insights into the benefits, drivers, and impacts of the entrepreneurship-technological innovation nexus. The use of semi-structured interviews allowed for a balanced approach, accommodating the time constraints of the participants while enabling a deeper exploration of the subject matter. The data collection process was conducted in person, either physically or virtually, to foster a personal and interactive engagement with the participants and gather valuable insights into the research topic.

RESULT AND DISCUSSION

Qualitative Interview

A total of 6 individuals participated in the study. For anonymity, the participants were identified as follows: Participants from lowly enterprising & technologically oriented firms: 1a and 1b Participants from highly enterprising & technologically oriented firms: 2a and 2b Professional experts (A venture capitalist and an academician): 3a and 3b

Demographic Characteristics

Six individuals participated in the interview. All of them identified as male. As stated earlier they were equally drawn from:

- Technologically oriented MSMEs (2 individuals)
- MSMEs with lower technological innovation (2 individuals) and
- Professional experts (2 individuals) (Figure 2)

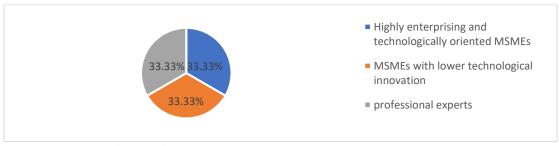


Figure 2: Demographic profile of participants

Organizational Characteristics

The participants in the study held various positions in a range of organizations. These organizations included Outdoor Events, Business & Development, Software, Business Management, Venture Capital, and Agile Enterprise Coaching & Training. The positions held by the participants encompassed Director, Managing Director, Co-founder, and Coach and Trainer. Notably, one participant chose not to disclose their specific position. Regarding the existence of the firms, only 5 participants disclosed the durations of the existence of their firms. Of these, 4 organizations (80%) have been operating for less than five years (Figure 3). Only one company (20%) existed for over 5 years.

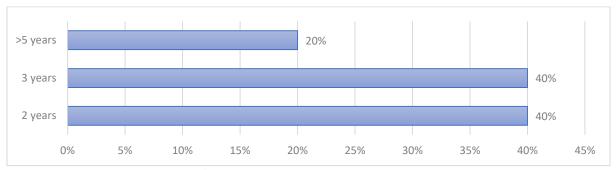


Figure 3: Duration of organizational existence

Responses

On whether entrepreneurship positively influences organizational growth

All six participants unanimously agreed that entrepreneurship has a positive influence on organizational growth. Drawing from their own experiences, the participants asserted that entrepreneurship plays a crucial role in identifying new opportunities for innovation and growth. This ability to recognize and capitalize on emerging prospects enables micro, small, and medium enterprises (MSMEs) to maintain a competitive edge over their rivals (Figure 4). Furthermore, the participants highlighted the significance of past entrepreneurial experience in equipping individuals with the skills needed to navigate complex situations or challenges without succumbing to discouragement. This valuable expertise gained from previous entrepreneurial endeavours contributes to the resilience and determination of individuals.

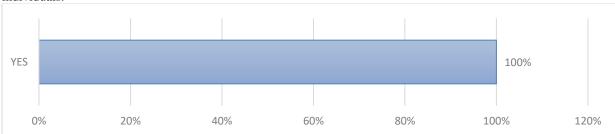


Figure 4: Does entrepreneurship positively affect organizational growth

On whether technological innovation is vital for the growth and sustainability of MSMEs

The significance of technological innovation for the growth and sustainability of Micro, Small, and Medium Enterprises (MSMEs) was unanimously acknowledged by all six participants, as indicated in (Figure 5). They collectively agreed on the importance of technological innovation in streamlining processes and operations, particularly in comprehending customer needs.

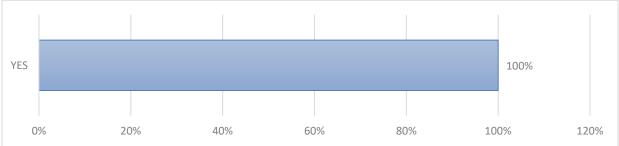


Figure 5: Is technological innovation vital for MSME growth & sustainability

4.2.3 On whether entrepreneurship is critical in promoting innovation in MSMEs

Five participants (83.33%) expressed the view that entrepreneurship plays a critical role in promoting innovation within MSMEs (Figure 6). Their argument is that entrepreneurs, by nature, are risk-takers, which makes them more inclined to embrace and implement new technologies, thereby driving innovation. Furthermore, due to their need to adapt quickly to market changes and make timely decisions, entrepreneurs are more likely to leverage technology to facilitate their decision-making processes.

However, one participant (16.67%) held a different perspective. This participant argued that technological skills are not necessarily a prerequisite for entrepreneurs, particularly if their venture does not revolve around technology. According to this viewpoint, entrepreneurs have the capacity to learn and acquire technological skills when the need arises rather than possessing them from the outset..

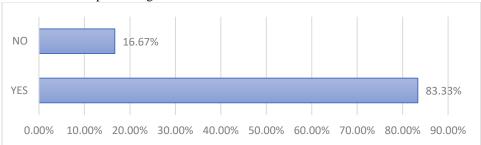


Figure 6: Does entrepreneurship promote technological innovation in MSMEs

Regarding the need for MSMEs to prioritize technological innovation to grow and remain competitive

Five of the participants (83.3%) agreed that MSMEs should prioritize technological innovation in order to enhance their growth and competitiveness. They emphasized the significance of technology in scaling up businesses and strategically accessing the market. By adopting technological advancements, MSMEs can effectively acquire more customers and gain a better understanding of their needs (Figure 7). On the other hand, one participant (16.67%) expressed uncertainty regarding the need for technological innovation. This participant suggested that the necessity of prioritizing technology depends on whether a business is technology-oriented or not.

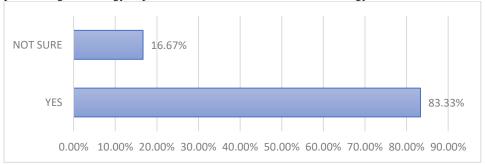


Figure 7: Should MSMEs make technological innovation a priority in growing and remaining competitive

Regarding whether MSMEs face significant challenges in adopting and implementing technological innovations All six participants answered "Yes."

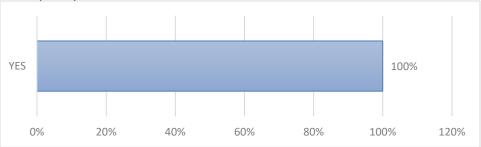


Figure 8: Do MSMEs face significant challenges in adopting/implementing technological innovations

The participants in the study identified several challenges associated with the adoption of new technology by micro, small, and medium enterprises (MSMEs). Resource or funding shortages were cited by three participants (50%) as a major hindrance, as these businesses often face competing needs that make it difficult for them to afford the costs associated with adopting new technology. Moreover, half of the participants (50%) agreed that the majority of MSMEs lack the necessary expertise or skills to effectively implement and sustain new technology. In addition to resource constraints and skill gaps, one participant (16.67%) highlighted the lack of information about the latest technology and its potential benefits for MSMEs. This individual argued that due to the demanding nature of running a business, entrepreneurs have limited time to research available technologies in the market. Consequently, they remain unaware of the opportunities that new technology can provide. Furthermore, industry restrictions such as licensing requirements were mentioned by one participant (16.67%) as a factor limiting the use of certain technologies in MSMEs. This regulatory barrier can impede the adoption of innovative solutions. Data security concerns also emerged as a perceived challenge among MSME owners. One participant (16.67%) expressed apprehension about the risks associated with digital innovations, specifically the potential unauthorized access to sensitive business information. This fear of data breaches can deter MSMEs from embracing new technologies.

Resistance to change was identified by two participants (16.67% each) as a barrier to technology adoption. One participant mentioned that MSME owners may feel intimidated by technology, while another participant highlighted the tendency for entrepreneurs to resist change if their businesses are performing well. This resistance stems from a desire to maintain the existing momentum and avoid disruptions to their established processes. Age-related factors were also discussed. One participant (16.67%) noted that older individuals without prior experience with technology often lack interest in adopting it. They tend to prefer a more hands-on, people-centric approach to running their businesses, prioritizing traditional methods over technological advancements. One participant (16.67%) mentioned the perception of technology as a luxury that MSMEs can do without. This viewpoint suggests that some businesses do not perceive technology as a necessary investment for their operations. The challenges mentioned by the participants in this study reflect various barriers to the adoption of new technology by MSMEs. These include resource limitations, lack of expertise, insufficient information, industry restrictions, data security concerns, resistance to change, age-related factors, and perceptions of technology as non-essential. Addressing these challenges is crucial for facilitating the successful integration of technology in the MSME sector.

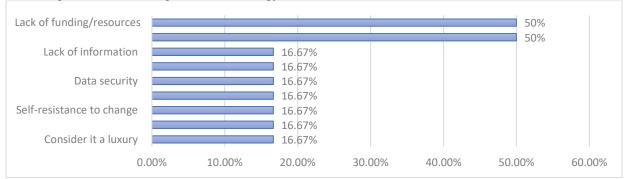


Figure 9: Challenges in adopting/implementing technological innovations

On whether MSMEs knew the role that entrepreneurship and technological innovation play in their growth

Three participants (50%) answered "Yes." They argued that most MSMEs knew about the entrepreneurship side of things—idea generation, personal drive and motivation, and opportunity recognition—and based their decisions on gut feelings. However, few implemented technological innovation because of resource and information limitations and competing business needs. Those who adopt technological innovation use it mainly for marketing. Two participants (33.33%) answered "No" because many MSMEs consider technological innovation a luxury for big businesses or tech-based ventures only. One person was "not sure."

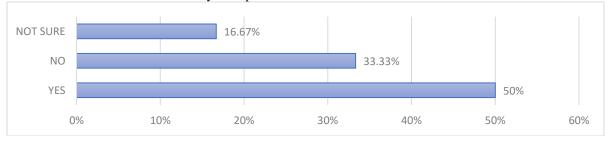


Figure 10: Knowledge level of MSMEs about the role of entrepreneurship and technological innovation in organizational growth

On whether MSMEs believe that research and development (R&D) is important in promoting entrepreneurship and innovation

Three (50%) answered "Yes." They argued that MSMEs, even those who have not engaged in it yet, understand the value of research at the start of the business, particularly in identifying the target customers and assessing the market size. However, many are limited by their resources and expertise for conducting research. Others fail to revalidate their research once the business is running, causing them to make costly assumptions about customer needs. One participant (16.67%) answered "No," as many entrepreneurs are too busy running their businesses to spare time for research. Two participants (33.33%) said that the decision to invest in R&D depended on the kind of business, its strategic vision, and the finances available.

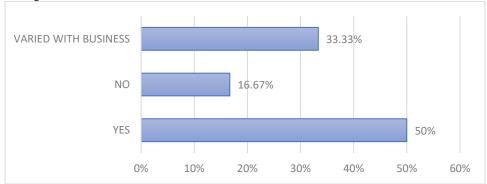


Figure 11: Importance of R&D in encouraging entrepreneurship and innovation

On whether they considered the government important in promoting entrepreneurship and technological innovation

Four participants (66.67%) answered "Yes," while two participants (33.33%) answered "No." The first group believed the government was critical to creating favourable policies. On the other hand, the second group thought that the government only creates hurdles through heavy taxation that prevent small businesses from growing.

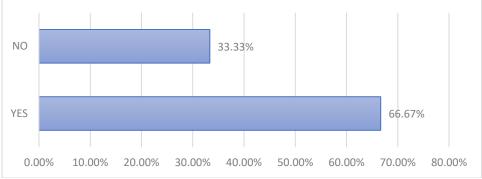


Figure 12: Is the government important in promoting entrepreneurship and technological innovation

On what role the government should play in promoting entrepreneurship and technological innovation in $\overline{\text{MSMEs}}$

Four participants (66.67%) mentioned tax incentives such as tax relief or tax breaks for the first three years to enable the entrepreneur to reinvest profit to stabilize and grow the business. Funding (50%) was necessary for setting up operations, adopting technology, and conducting research. Training and mentorship programs (50%) were also important for improving entrepreneurial skills, especially for underrepresented groups. Reducing bureaucratic barriers (16.67%), providing market accessibility, encouraging diversity and inclusion in entrepreneurship (16.67%), and providing necessary infrastructure (16.67%), such as digital connectivity, logistics, and transportation, could fast-track business launching and revenue generation. The government was also best placed to build an effective ecosystem of key players (16.67%) who can help entrepreneurs reach their goals. This can also be achieved through international collaboration (16.67%), especially in connecting MSMEs with foreign markets. Lastly, because MSMEs face ongoing challenges, the government should organize continuous dialogues and forums (16.67%) to address these issues as they arise.

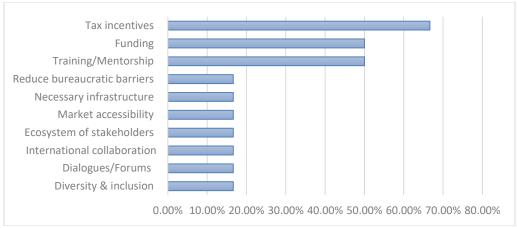


Figure 13: Role of government in promoting entrepreneurship and technological innovation in MSMEs

When asked whether entrepreneurship or technological innovation makes MSMEs more resilient

Five participants (83.33%) affirmed the need for an entrepreneurial mindset and technological innovation. An entrepreneurial mindset is important for establishing a business. On the other hand, technological innovation (e.g., software tools) is key to financial planning. In addition, it helps reduce operational costs, improve efficiency, and expand into new markets, thus unlocking the full potential of a business and enabling it to stay competitive. One participant (16.67%) argued that choosing whether to prioritize entrepreneurship or technological innovation depended on the type of business venture.

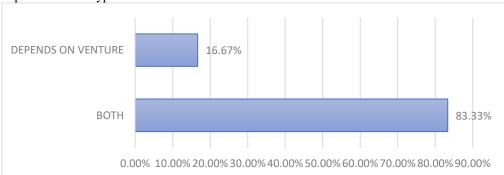


Figure 14: Entrepreneurship or technological innovation or both for MSMEs

Summary of Findings

The findings of the study can be summarized as follows:

i. Both entrepreneurship and technological innovation have a positive impact on the growth and sustainability of MSMEs.

Entrepreneurship helps in identifying new opportunities and navigating business complexities, while technological innovation simplifies operations and clarifies customer requirements. However, many MSMEs focus more on entrepreneurship, neglecting technological innovation due to resource and information constraints, competing business priorities, and the perception that it is more relevant for larger businesses or tech-based ventures.

ii. There is a positive correlation between entrepreneurship and innovation.

Entrepreneurs, being risk-takers, are more likely to adopt new technologies and innovations that can enhance their responsiveness to market changes and decision-making. However, the timing of technological adoption varies among entrepreneurs, with some preferring to adopt them at a later stage when their businesses have stabilized.

iii. Technological innovation enhances the competitiveness of MSMEs.

It enables businesses to scale up strategically by providing access to a larger customer base and a better understanding of customer needs and preferences.

iv. MSMEs face significant challenges that hinder the adoption of technological innovations.

The main barriers identified in the findings include limited resources, funding, and technical skills. Other challenges include a lack of information about the latest technologies and their benefits, industry restrictions such as stringent

licensing requirements, concerns about data security in digital innovations, resistance to change, perceptions of technology as a luxury, and the influence of factors like older age.

v. Research and development (R&D) play a crucial role in fostering entrepreneurship and innovation.

Half of the MSMEs surveyed consider R&D important to their businesses. Research helps in customer identification and market assessment. However, resource, expertise, and time constraints act as barriers for many MSMEs, and research is often conducted only during the initial stages of business establishment, leading to inaccurate assumptions about customer needs.

vi. Favourable government policies play a significant role in encouraging MSME entrepreneurship and innovation.

The findings revealed several such policies, including tax incentives such as 1-3-year tax breaks, funding for operations, technology implementation, and research financing. Training and mentorship programs, removal of bureaucratic obstacles, increased market accessibility, promotion of diversity and inclusion, establishment of supportive infrastructure (e.g., transportation, logistics, and digital connectivity), creation of an ecosystem involving creditors, financial institutions, research institutions, investors, tech firms, and entrepreneurship trainers and mentors, continuous dialogue with MSMEs to address challenges, and opportunities for international collaboration

vii. Both entrepreneurship and technological innovation contribute to the resilience of MSMEs.

An entrepreneurial mind-set is crucial for setting up operations, while technological innovation plays a vital role in financial planning, cost reduction, efficiency improvement, market expansion, and unlocking the full potential of a business.

Thematic Analysis

The thematic analysis model used in this study was that provided by Braun and Clarke (2006). The study describes thematic analysis as a method that identifies analyses, and reports patterns or themes within data. Themes show an important aspect, meaning, or pattern of the data with reference to the research question. Some themes recur across a data set more than others. However, their importance will depend on what the researcher is trying to achieve. The thematic analysis process involves six steps that were followed in this study:

- i. The first stage was familiarization with the data, which involved repeated readings of the data to gain a better understanding of the meanings and patterns that emerged. The recorded interviews were transcribed and reread several times, and their accuracy was checked
- ii. The second stage was initial code generation, involving the identification of the initial codes—the most basic data features that can be meaningfully assessed in relation to the topic or phenomenon of study. Here, the transcript of each participant was reread, and the relevant initial codes were identified (Table 1).

Core Themes	Sub-Themes		Codes		
Entrepreneurial Mindset	0	New	0	Solving a problem	
		opportunities/ideas	0	Learning from failure, learning from	
	0	Navigating challenges		experience	
	0	Risk-taking nature	0	Taking risks, embracing new things	
Technological Innovation	0	Simplify business	0	Easy to do a lot of things	
Competitive Advantage		operations	0	Understand customer needs, customer	
	0	Strategic marketing		satisfaction	
Major Challenges to	0	Lack of resources	0	Funds or financing	
Technological innovation	0	Lack of skills and	0	Basic technical skills	
		knowledge	0	Knowledge of recent technology,	
	0	Lack of information		benefits of technology, deciding on	
	0	Industry restrictions		the right technology	
	0	Data security risks	0	Proper license, over-regulation	
	0	Self-resistance to	0	Worried about security	
		change	0	Preference for traditional	
	0	Older age		methods/techniques	
	0	Negative stereotypes	0	lack of interest, incentive(s)	
			0	Intimidating, technology is a luxury,	

R&D in Entrepreneurship and Technological innovation	 Customer identification 		0	Identifying new customers, Low interest in research
Role of Government	 Reduction Diversing inclus Supposinfrast Ecosy player Contino Intern 	ives ng/mentorship ee bureaucracy sity and ion ortive cructure stem of key		Tax breaks, tax reliefs Lack of funds Basic entrepreneurship training Licensing and other regulations Underrepresented groups Digital connectivity, logistics, and transportation infrastructures Stakeholders Forums and discussions Connecting with foreign markets

Table 1: Themes, sub-themes, and codes

- iii. The third step involved searching for themes by comparing the codes with the text to find familiar concepts.
- iv. Next, the themes were reviewed and refined to identify a final list.
- v. Next, the themes were defined and analysed, and their subthemes were also identified to build a complete story relevant to the research objectives.
- vi. In the sixth step of report production, the developed themes were interwoven with relevant quotes and organized into a report.

Five major themes emerged from the thematic analysis:

- i. entrepreneurial mind-set
- ii. Technological Innovation in competitive advantage,
- iii. Major challenges to Technological Innovation
- iv. R&D in entrepreneurship and Technological Innovation, and
- v. The role of government (Figure 15).

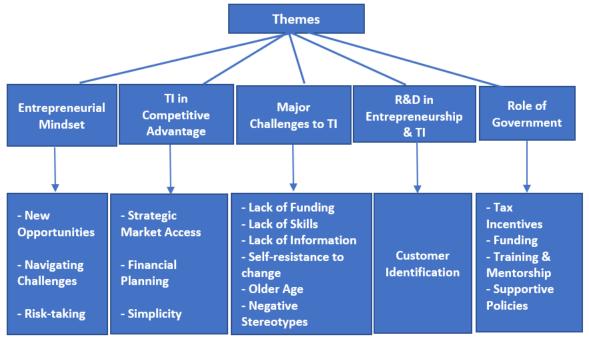


Figure 15: Major themes obtained from the initial codes

CONCLUSION AND RECOMMENDATIONS

The significance of entrepreneurship and technological innovation for business growth and success has been established by research findings. One key theme that emerges is the importance of an entrepreneurial mindset in identifying new opportunities for growth, addressing business challenges, and embracing risks. Entrepreneurs, being risk-takers, are more inclined to adopt new technologies despite uncertainties, which positively influences business growth. The adoption of technologies plays a crucial role in enhancing competitive advantage, as highlighted in the second theme. Technological innovation enhances three key competencies: strategic market access, financial planning, and simplifying operations. This finding is supported by various studies. For instance, Giaccone and Magnusson (2021) found that risk-taking behavior positively impacts innovation performance, particularly when accompanied by sufficient innovation support activities, organizational resources, collaboration, and clear objectives. Similarly, Al-Mamary and Alshallaqi (2022) discovered a strong correlation between entrepreneurial intention and risk-taking, proactiveness, and innovations among Saudi university students. These studies emphasize that entrepreneurs and their mindsets determine how effectively they embrace technological innovation for their ventures' growth. The role of technological innovation in enhancing competitive advantages has also been extensively examined. For financial planning, Zhang and Wang (2022) discovered a direct impact of the financial budget of small and medium-sized enterprises (SMEs) on their technological adaptation. Innovative financial planning increases the likelihood of adopting innovative technology, such as big data, within SMEs, leading to improvements in customer service, supply chain linkages, and market relationships. Additionally, technology serves various financial functions, such as artificial intelligence for MSME credit assessment and blockchain for improved recording and tracking of business transactions and expenditures (Asak, 2022). Technological innovations like digital marketing enable firms to target and track marketing metrics with unprecedented speed and reach, facilitating new forms of interactions with customers and generating valuable data for analytics (Jain and Yadav, 2017; Hoffman et al., 2021). Furthermore, communication innovations promote stakeholder collaboration, reduce information acquisition and processing costs, and enable automation (Berawi, 2018; Nikoloski, 2014; Kearney, 2017).

The third theme revolves around the challenges faced by MSMEs in adopting technological innovation, including limitations in funding, technical expertise, information, older age, self-resistance to change, and negative stereotypes. Among these challenges, the lack of funding emerges as the most significant barrier. Numerous studies have supported this claim, indicating that a significant percentage of MSMEs in the developing world have unmet financing needs and often rely on personal funds or contributions from family and friends to establish and run their operations. Elhusseiny and Crispim (2022) identified additional barriers in the form of technical, organizational, technological, and legal challenges that hinder technological innovation adoption in MSMEs. The fourth theme focuses on the role of research in MSMEs, revealing that customer identification is an area where minimal research is conducted. Many MSMEs prioritize other aspects due to resource, expertise, and time limitations. However, research and development (R&D) has the potential to develop new products and production processes and expand the firm's knowledge base and technological awareness, providing opportunities for innovation and growth. Therefore, including research among their priorities can significantly enhance the performance of MSMEs. Lastly, the government's role in promoting entrepreneurship and technological innovation in MSMEs is crucial, as emphasized in numerous studies. Common forms of support include loans, tax relief, and social support through external networking linkages. Education and training programs are also essential for nurturing an entrepreneurial spirit, increasing access to technology, facilitating market access through strategic alliances between businesses and academia, organizing tradeshows, and establishing legal infrastructure, such as antidiscrimination laws (Alkahtani, Nordin, and Khan, 2020; Vargas-Hernández and Noruzi, 2009).

The findings showed that entrepreneurship improves and promotes organizational growth by positively influencing technological innovation. Here, an entrepreneurial mind-set – characterized by the ability to identify new opportunities, navigate business challenges, and risk-taking – increases the likelihood of adopting innovative technologies. Technological innovation, in turn, promotes business growth by enhancing the firm's competitive advantages in financial planning, strategic market access, and simplifying business operations. Secondly, the findings uncovered several challenges that hinder technological adoption in MSMEs, such as limitations in financing, technical expertise, and information. Older individuals are also less likely to adopt innovative technologies. In addition, negative stereotypes about technology and resistance to change also hinder adoption. The findings thus recommend investment in R&D to help drive continuous renewal and performance. Lastly, the government should support MSMEs through favourable policies and infrastructure. Given the foregoing, the following recommendations are put forward. The strategies for promoting entrepreneurship and technological innovation in MSMEs include; Investing in continuous self-improvement through education, training, and mentorship programs; Investing in continuous research about

innovative technologies and their benefits and adopting the most suitable ones to keep the business competitive; Collaborating with strategic partners to gain access to the most recent information on markets, consumers, and technologies, as well as secure funding; Implementing digital solutions to simplify and automate routine tasks and perform key data analytics to keep track of changes in consumer preferences.

References

- Abstracts Presented at the 2nd Annual Advancing Healthcare Innovation Summit: Nov 11, 2022, Cincinnati, OH." (2022) Innovations in Digital Health, Diagnostics, and Biomarkers 2(2022), pp. 73–81.
- Ali, A.Y.S. and Anshur, J.A. (2012). Entrepreneurship Contribution to Economic Growth: An Empirical Study on Benadir Region. *International Journal of Business and Management Tomorrow*, 2(9), pp.1–8
- Alkahtani, A., Nordin, N. and Khan, R.U. (2020). Does Government Support Enhance the Relation between Networking Structure and Sustainable Competitive Performance among SMEs? *Journal of Innovation and Entrepreneurship*, [online] 9(1).
- Al-Mamary, Y.H. and Alshallaqi, M. (2022). Impact of autonomy, innovativeness, risk-taking, proactiveness, and competitive aggressiveness on students' intention to start a new venture. *Journal of Innovation & Knowledge*, [online] 7(4), p.100239. https://doi.org/10.1016/j.jik.2022.100239.
- Ameh, J. O., Lambe, K. I. & Dzugwahi, H. (2023). Nexus between Human & Social Capital and Financial Performance: Evidence from Listed Multinational Companies in Nigeria. American International Journal of Business Management (AIJBM), Vol. 6 (4), 28 50. Online Version: www.aijbm.com
- Ardic, O.P., Mylenko, N. and Saltane, V. (2011). Small and medium enterprises: A cross-country analysis with a new data set. *Policy Research Working Paper 5538*. Available online at: https://www.cgap.org/sites/default/files/CGAP-Small-and-Medium-Enterprises-Jan-2011.
- Asian Development Bank (ADB) (2009). *Enterprises in Asia: Fostering dynamism in SMEs*. Available online at https://www.adb.org/sites/default/files/publication/27727/ki2009-special-chapte (Accessed 11 April 2023)
- Audretsch, D. B. and Link, A. N. (2012) 'Entrepreneurship and innovation: Public policy frameworks', Oxford Research Encyclopedia of Economics and Finance.
- Audretsch, D.B., Acs, Z.J., Braunerhjelm, P. and Carlsson, B. (2006). Growth and Entrepreneurship: An Empirical Assessment. *CEPR Discussion Paper No. 5409*. Available online at: https://ssrn.com/abstract=893068 (Accessed 11 April 2023).
- Barney, J. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99-120.
- Bauman, A. and Lucy, C. (2021) "Enhancing entrepreneurial education: Developing competencies for success." The International Journal of Management Education 19(1), p. 100293.
- Berawi, M.A. (2018). Improving Business Process through Advance Technology Development. *International Journal of Technology*, [online] 9(4), p.641. https://doi.org/10.14716/ijtech.v9i4.2221.
- Bosma, N., Content, J., Sanders, M. and Stam, E., 2018. Institutions, entrepreneurship, and economic growth in Europe. Small Business Economics, 51, pp.483-499.
- Braun, V. and Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, [online] 3(2), pp.77–101. https://doi.org/10.1191/1478088706qp063oa.
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. Qualitative Research in Sport, Exercise and Health, 11(4), 589-597. Available online at: https://www.tandfonline.com/doi/full/10.1080/2159676X.2019.1628806 (Accessed 13 April 2023)
- Brinckmann, J., Grichnik, D. and Kapsa, D., (2010). Should entrepreneurs plan or just storm the castle? A meta analysis on contextual factors impacting the business planning–performance relationship in small firms. Journal of business Venturing, 25(1), pp.24-40. Available online at https://www.sciencedirect.com/science/article/pii/S0883902608001109 (Accessed 11 Aptil 2023)
- Carree, M., & Thurik, A. R. (2010). The impact of entrepreneurship on economic growth. In Handbook of entrepreneurship research (pp. 557-594).
- Casson, M. and Della Giusta, M. (2007) "Entrepreneurship and Social Capital." International Small Business Journal 25(3), pp. 220–244. Available at: https://doi.org/10.1177/0266242607076524.
- Charmaz, K. (2014) Constructing grounded theory. 2nd edition. London: SAGE Publications
- Chen, S., Wang, S., & Phau, I. (2022). The role of YouTube influencers in promoting beauty product innovation adoption. Journal of Business Research, 136, 428-438.
- Massingham, P. (2014) "An evaluation of knowledge management tools: Part 1 managing knowledge resources." Journal of Knowledge Management 18(6), pp. 1075–1100.
- McKinsey (2022). What is innovation? [online] www.mckinsey.com. Available at: https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-innovation.

- Exploring the Perceptions and Experiences of Entrepreneurs regarding Technological Innovation and its Impact on Growth of MSMEs in UK: A Qualitative Study
- Mehmood, T., Alzoubi, H.M., Alshurideh, M., Al-Gasaymeh, A. and Ahmed, G. (2019). Schumpeterian entrepreneurship theory: Evolution and relevance. *Academy of Entrepreneurship Journal*, [online] 25(4).
- Miles, R.E., Snow, C.C., Meyer, A.D. and Coleman, H.J. (1978) "Organizational Strategy, Structure, and Process." Organizational Strategy, Structure, and Process 3(3), p. 546. Available at: https://doi.org/10.2307/257544.
- Souza, M.T. de, Silva, M.D. da and Carvalho, R. de (2010). Revisão integrativa: o que é e como fazer. *Einstein (São Paulo)*, [online] 8(1), pp.102–106. https://doi.org/10.1590/s1679-45082010rw1134.
- Stam, E. and van Stel, A. (2009). *Types of Entrepreneurship and Economic Growth*. United Nations University, Maastricht, The Netherlands: Working Paper Series: Maastricht Economic and Social Research and training center on Innovation and Technology, pp.1–22. Available at: https://collections.unu.edu/eserv/UNU:60/wp2009-049.pdf (Accessed 11 April 2023).
- Tambunan, T., (2021). Micro, small and medium enterprises in times of crisis: Evidence from Indonesia. Journal of the International Council for Small Business, 2(4), pp.278-302.
- Teece, D.J. (2018). Technological innovation and the theory of the firm: The role of enterprise-level knowledge, complementaries, and (dynamic) capabilities. European Economic Review, 101, 536-557.
- The World Bank (2021). *SME Finance*. [online] World Bank. Available at: https://www.worldbank.org/en/topic/smefinance [Accessed 22 Jun. 2023].
- Umobong, A. A. & Ironkwe, U. (2017). Creative accounting practices and financial performance of firms. *International Journal of Innovative Finance and Economics Research*, 5(1), 1-10.
- United Nations, (2023). United Nations. Available online at https://sdgs.un.org/topics/capacity-development/msmes (Access on March 28 2023)
- Upadhyay, C.S. and Rawal, P. (2018). A critical study of Joseph A. Schumpeter's innovation theory of entrepreneurship. *International Journal of Creative Research Thoughts (IJCRT)*, [online] 6(1). Available at: https://ijcrt.org/papers/IJCRT1705239.pdf [Accessed 11 Jun. 2023].
- Urbancová, H. and Hudáková, M., (2015). Employee development in small and medium enterprises in the light of demographic evolution. Acta universitatis agriculturae et silviculturae Mendelianae Brunensis, 63(3), pp.1043-1050.
- Urbano, D., Aparicio, S. and Audretsch, D. (2018). Twenty-five Years of Research on Institutions, Entrepreneurship, and Economic Growth: What Has Been learned? *Small Business Economics*, 53, pp.21–49.
- Van Praag, C.M. and Versloot, P.H. (2007). What is the value of entrepreneurship? A review of recent research. *Small Business Economics*, [online] 29(4), pp.351–382. https://doi.org/10.1007/s11187-007-9074-x.
- Vargas-Hernández, J.G. and Noruzi, M.R. (2009). A Study on Entrepreneurship and Role of Government in Enhancing Entrepreneurship by Establishing SMEs and Start-ups. [online] Available at: https://www.researchgate.net/publication/227653794_A_Study_on_Entrepreneurship_and_Role_of_Government in Enhancing Entrepreneurship by Establishing SMEs and Start-ups [Accessed 22 Jun. 2023].
- Zhang, G. and Wang, T. (2022). Financial Budgets of Technology-Based SMEs from the Perspective of Sustainability and Big Data. *Frontiers in Public Health*, [online] 10. https://doi.org/10.3389/fpubh.2022.861074.