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Impact of Digital Technology Adoption and Innovation Capability on Entrepreneurial Success

By

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ABSTRACT: Entrepreneurial success in developing economies, especially in Nigeria and West Africa, is still impaired by the lack of adoption of digital technologies and developed innovation capabilities. This conceptual study explores how the adoption of digital technology and innovation capability impact the success of entrepreneurship through addressing research problem of how technology integration and innovation resources affect performance, competitiveness, and sustainability of entrepreneurial ventures. The primary objective is to gain knowledge on the working principle of digital tools, and novice practices that will advance the pace of business growth, responsiveness to markets and development in the long run. Following the conceptual research design, this study is developed on the systematic gathering of secondary data like scholarly journals, books, historical data, industry reports and newspapers to generalize the understanding of nexus of digital innovation and entrepreneurship. Major results include that the adoption of digital technology has extensive positive effects on the effectiveness of operation and market reach and the ability of innovation mediates the correlation by providing the sustainable competitive advantage and capability to find creative solutions to problems. Besides, the synergies of technology and invention install recharging and growth and scale capability and a customer-focused amongst SMEs. In the light of these findings, the paper proposes that the entrepreneurs must invest strategically in developing digital structures; enhance their innovation potential; and coordinate technology usage with innovation programmes. The point is that policymakers are encouraged to provide supportive systems that enhance the performance of the entrepreneurs. Twitter also contributes to the theory because this study relates Technology Acceptance Model (TAM) and Resource-Based View (RBV) perspectives to the real-life sustainable entrepreneurship considerations.

KEYWORDS: Digital Technology Adoption, Innovation Capability, Entrepreneurial Success, SMEs, Sustainable Growth.

INTRODUCTION

1.1 Background of the Study

The eruption of computerized technologies has resulted in the shift in patterns of business practices across the world, and the manner in which they generate value, interact with their clients and place themselves in the competitive markets. Among the global community, the digital

transformation and innovation capability is turning out to an imperative business venture imperative entrepreneurship with a view to attaining long-term performance and sustainability (Chen et al., 2024). It is recognized that innovation is a significant determinant of competitiveness and success in business within

the contemporary industrial environment, particularly in the competitive and technologically superior industries (Akhlagh et al., 2013). The ability to utilize such sophisticated technologies as cloud computing, artificial intelligence, automation, and decision systems based on data are also directly associated with organizational development and the achievements of entrepreneurs both in developed and emerging economies (Aboelmaged, 2014). The ever-changing nature of digital tools requires successful entrepreneur to grow their innovation capacity high so that they can remain relevant and adapt to the market changes (M. Sigala et al., 2014). In Africa, digital adoption is becoming a driver to enhance the entrepreneurship success and allow business organizations to enter the new markets and increase the efficiency of their operations. A study on the African small and medium scale enterprises demonstrates that technology adoption and innovation capabilities have a positive impact on the performance results and assist companies in addressing the sustainability and customer demand issues (Muhammed, Sundararajan and Lawal, 2022). One of the factors that has led to innovation and sustainable development of SMEs in the developing economies has also been the social media usage where the social media has allowed better sharing of knowledge, engagements with customers and leadership through digital means (Sundararajan and Mohammed, 2023).

The entrepreneurial society in West Africa is currently expanding, yet, such challenges as a poor technological environment, insufficient capabilities and accessibility to international markets persist in the sphere of business. The focus has been on the researches that show the relevance of innovativeness strategies and technology-based models in reducing the risks and encouraging sustainable activities (Kumar et al., 2024). Besides, the strategic management practices and government support play a crucial role to facilitate the competitiveness of the entrepreneurship in the area (Mohammed & Sundararajan, 2023). Entrepreneurship is among the driving forces behind the economic growth, creation of employment and alleviation of poverty in the case of Nigeria in particular. Nevertheless, low technological adoption rates and skill

shortage and innovation willingness (Muhammed, Sundararajan and Lawal, 2022) have often affected the sustainability of the entrepreneurial project. The recent works highlight the central role of managerial attitudes, HR practices and digital transformation initiatives in enhancing the performance of entrepreneurs and business survival (Mohammed, Jakada & Lawal (2023; Aliyu, 2023; Mohammed, 2023). With the ongoing move towards the digital economy in Nigeria, the employment of technologies and the degree of innovation competence becomes a crucial success factor of an entrepreneurship and long-term evolution. Consequently, a look at the combined effect of the development and penetration of digital technologies and innovation capability gives crucial insights in affecting competitiveness and ensuring long-term entrepreneurial sustainability in Nigeria and other emerging economies and of the same kind.

1.2 Problem Statement

Entrepreneurs worldwide are starting to use digital technologies to enhance operational efficiency, innovation processes, and competitive positioning. However, despite the actual benefits of digital transformation, many entrepreneurial ventures, especially developing economies, face problems to leverage digital tools to enable sustainable growth (Aboelmaged, 2014; Chen et al., 2024). The problem is more visible in Africa with issues such as on the infrastructure of the continent, the availability of technical know-how and financial capacities limiting the use of technology and growth through innovation (Sundararajan and Mohammed, 2023). In West Africa, the entrepreneurial business ventures are facing high failure rate due to technical and technological innovations and the limited integration of technology in the business operation. Although innovation is known to be a major contributor to long-term performance, the entrepreneurial community in the region is still showing low strategic adoption of innovative practices to improve competitiveness and productivity (Akhlagh et al., 2013; Kumar et al., 2024). Nigeria especially faces formidable challenges such as low levels of digital literacy, low investment in innovations, and inefficiencies in operations that have negative implications on

entrepreneurial performance and sustainability (Muhammed, Sundararajan & Lawal, 2022). Evidence further shows that while entrepreneurship still grows, a lot of Nigerian ventures fail within the first few years of operation due to the weak technological adaptation coupled with lack of innovation capabilities needed to respond to fast-changing market environments (Mohammed, Jakada & Lawal, 2023; Mohammed, 2023).

Although previous research has been conducted on the digitalization, business innovation, and performance outcomes as isolated cases, there has been a critical lacuna on the understanding of the joint roles played by digital technology adoption and innovation capability in the entrepreneurial success process within the context of Nigeria and other similar emerging markets. Moreover, in the existing research, both constructs have not been adequately intersected in a single conceptual structure in a way tailored to entrepreneurs in developing environments. Therefore, this study aims to summarize this gap by examining the interaction between digital technology adoption and innovation capability on entrepreneurial success, which could provide meaningful insights to entrepreneurs and business policy makers as well as innovation-driven institutions who try to promote sustainable entrepreneurial growth.

1.3 Significance of the Study

The significance of the study is that it may be linked with the academic research and the real development of entrepreneurship, particularly with global and African ones. As digital transformation becomes the new source of competitiveness and sustainability, the understanding of a link between the implementation of digital technology and the ability of innovations and their effect on entrepreneurial prosperity is paramount to shaping the business strategy in the future as well as being a component of the policy levels (Chen et al., 2024; Mohammed, 2023). From a global perspective, this study adds to the growing body of knowledge relating digital transformation to performance and sustainability of firms. Prior studies, in particular Gupta and George (2016) and Ahammad et al. (2021), have shown the strategic role of technological capabilities and dynamic capabilities in order to better

organizational outcomes. However, this study extends the discourse by bringing innovation capability as a mediating construct that enhances the relationship between the adoption of digital technology and the success of the enterprise. In the African context, the research is one of the factors that help to fill a big gap of research on the digital divide and innovation challenges in developing economies particularly faced by entrepreneurs (Ungerman et al., 2018; Al-Muafaq, 2009). Africa's entrepreneurial ecosystem is vibrant and yet limited access to technology, skills and innovative infrastructure showcase in performance and competitiveness have direct impact on entrepreneurial ecosystem (Aboelmaged, 2014). By focussing on digital adoption and innovation capability, the current study presents evidence-based insights which can be used for policy interventions targeting the strengthening of Africa's innovation-driven entrepreneurship landscape.

On the one hand, the practical value of the study is significant to West Africa, and to Nigeria in particular. The technological integration and innovation are structural challenges that face entrepreneurial sector of Nigeria where SMEs control the market (Muhammed, Sundararajan and Lawal, 2022). The ability to know how entrepreneurs may use digital tools and practices is significant not only in fuelling productivity, gaining employment, and creating of jobs, but also sustainable economic growth. Similar articles indicate a significant implication in the implementation of technology: strong influences on business resilience in unstable markets may be as a result of strategic implementation of technology and constant technological innovation (Mohammed et al., 2024; Sundararajan and Mohammed, 2023). Moreover, this research provides both practical implication on the entrepreneurs and managers and the policy makers. For entrepreneurs, it provides a conceptual model to learn how digital and innovation capabilities can intervene with synergy for better performance. For policymakers and development agencies, there are empirical insights for their approaches to support context in a manner that ensures development of digital literacy, innovation funding and sustainable entrepreneurship initiatives. For scholars it emails

the theoretical discussion by integrating Technology Acceptance Model (TAM) and Resource Based View (RBV) to explain entrepreneurs' success in developing context. Ultimately, this study fuels the achievement of Sustainable Development Goals (SDGs) relating to innovation (Goal 9), decent work and economic growth (Goal 8) and development of the industry (Goal 12) as innovative digital inclusion and innovation-led entrepreneurship among the emerging economies.

1.4 Research Objectives

The main objective of this study is to examine the impact of digital technology adoption and innovation capability on entrepreneurial success, with a particular focus on the Nigerian entrepreneurial ecosystem within the broader context of Africa and developing economies. To achieve this overarching aim, the study pursues the following specific objectives:

1. To examine the influence of digital technology adoption on entrepreneurial success.
2. To determine the influence of the innovation capability on the success of the entrepreneur.
3. To determine the mediating effect of innovation capability in the connection between digital technology adoption and entrepreneurial success.
4. To determine the significant digital and innovation-led aspects to improve the sustainability and competitiveness of entrepreneurial ventures.
5. To give strategic advice to entrepreneurs, policymakers, and institutions on how to use digital transformation and innovation to grow and be more sustainable in business.

The framework of these specific objectives is anchored in both theory of the Technology Acceptance Model (TAM) and the Resource-Based View (RBV), which elucidates the level to which the contribution of the technology adoption behaviours by the entrepreneur and internal innovation resources can be utilized to explain both performance and sustainable advantage (Davis, 1989; Wernerfelt, 1984; Barney, 1991).

1.5 Research Questions

To support the above objectives, the study aims at answering the following research questions:

1. What are the effects of digital technology adoption on the success of the entrepreneur?

2. How innovation capability affects the success of the entrepreneur?
3. Is innovation capability a mediating variable between the adoption of digital technologies and the success of the entrepreneurship?
4. What do you, in your opinion, constitute the digital and innovation-related contributors to the sustainability and competitiveness of any entrepreneurial venture that would rank highest?
5. What is the policy and strategic suggestion that can be made to enhance the contribution of digital technology and innovation to entrepreneurial development and sustainability?

These questions are to inform the conceptual analysis, and it will ensure the study (systematically) examines the relationship that exists between digital transformation, innovation capability, and entrepreneurial performance within global and developing environments.

2.1.1 Digital Technology Adoption (IV1)

Technology Adoption in Entrepreneurship

The use of digital technology is now a fundamental basis of revolution in the world economic sphere of entrepreneurship, efficiency, and competitiveness. The incorporation of the use of digital tools assists the entrepreneur in the optimization of operational activities, improved decision-making, along with customer engagement and increased success of the business (Chen et al., 2024). In that, it is the fullest that perceptions of usefulness and perceived ease of use are the most essential predictors of technology adoption (Davis, 1989). The more positive attitude towards digital technologies as helpful and convenient the entrepreneurs are, the greater is the probability of integrating them into business operation that will reduce to better productivity and sustainability. The utilization of the digital technology among small and medium-sized enterprises (SMEs) in the emerging economies and particularly Africa has been found to be a requisite factor in boosting innovation and competitiveness (Afolayan et al., 2015; Al Mamun, 2017). However, differences in infrastructure, digital literacy and access to finance often prevent broad adoption. In Nigeria, in spite of the fact that the entrepreneurial ecosystem is expanding quickly, several business enterprises cannot take full advantage of digital tools due to poor digital infrastructure and poor

awareness (Mohammed, 2023; Muhammed et al., 2022). Consequently, the use of digital technology turns out to be not only a strategic necessity, but also a developmental challenge for the promotion of sustainable entrepreneurship.

Digital Transformation for Startup Competitiveness

Digital transformation is not the adoption of technology, but a strategic shift in the way firms create value, manage processes, and interact with stakeholders (Chen et al., 2024). For startups and microenterprises, digital transformation is a reason to help accelerate their digital transformation in the organization in terms of agility, scalability, and reaction to the market. Studies in China's manufacturing and textile industries have shown that digital transformation has a positive effect on the performance of the firms and sustainability, particularly if backed by dynamic digital capabilities and innovation orientation (Alvarado-Vargas et al., 2020; Chen et al., 2024). On the same note, in the emerging markets, digital change is assisting startups in removing obstacles in the old markets via the use of online stores, e-Commerce, and payment systems (Mohammed, 2023). Better visibility of the brand, the customer and efficiency in their operations is also being facilitated by the emergence of social media and digital marketing tools (M. Sigala et al., 2014). With the ability of entrepreneurs to surface the digital ecosystems, new markets and knowledge networks that add to competitive advantage and long-term business excellence will be entertained.

Cloud Computing, AI, Data Analytics, and Digital Tools

The emergence of cloud computing, artificial intelligence (AI), data analysis and automation technologies has transformed the manner in which entrepreneurs conduct business. Cloud computing is also inexpensive and easy to scale resources in case a startup needs to utilize resources without huge investments in capital (Abvolated, 2014). Instead, AI and machine learning enable forming a predictive decision and delivering a customer-specific experience, whereas data analytics enable one to rely on evidence-based approaches, which will enhance operational performance (Gupta and George, 2016). Moreover, the integration of business processes by entrepreneurs is also

possible through the use of digital resources such as enterprise resource planning (ERP) and customer relationship management (CRM) software and e-commerce systems. The technologies enhance agility and reduce inefficiencies and install innovation-based competitiveness (Ahammad et al., 2021). Nevertheless, blue- and greener-economies are not completely implemented in all regions due to infrastructure challenges and the presence of loopholes in their policy, as well as the lack of technical skills in most African regions (Aliyu, 2023; Mohammed and Sundararajan, 2023). Addressing these barriers is of significant importance for entrepreneurs to realise these opportunities through digital technologies for sustainable growth and global competitiveness.

Technology Adoption Models (TAM, UTAUT Basis)

Technology adoption in entrepreneurial environments is well-known in terms of behavioural and organizational models of user acceptance. The Technology Acceptance Model (TAM), which was proposed by Davis (1989), focuses on perceived usefulness as well as perceived ease of use as a driving force for primarily technology adoption. Entrepreneurs are likely to embrace digital tools when they believe there will be positive outcomes in terms of productivity, performance, and reach on the market. Complementing TAM, the Unified Theory of Acceptance and Use of Technology (UTAUT) add social influence and facilitating conditions as other determinants which affect technology-related decisions at the organizational level (Venkatesh et al., 2003). In entrepreneurship, these models focus on how managerial attitude, managerial capabilities, digital skills and organisational readiness affect the concept of implementing innovative technologies (Mohammed, Jakada & Lawal, 2023). Therefore, an understanding of the behavioural elements of technology adoption is crucial for the enhancement of the outcomes of digital transformation in entrepreneurial venture activities.

Barriers to Technology Adoption in Developing Economies

Despite the overwhelming positive propositions of digital transformation, start-ups in developing

economies contend against challenges that continuously have restricted the use of technology and using it for entrepreneurship. According to studies, financial constraints, insufficient ICT infrastructure, digital literacy, cyber risks and resistance to change are the major barriers to the adoption of digital tools for SMEs (Aboelmaged, 2014; Mohammed, 2023). In the African context, structural barriers like unstable power supply and limited penetration of broadband and institutional gaps limit SMEs from adopting advanced technologies such as cloud computing, AI and big data analytics by Sundararajan & Mohammed (2023). West African entrepreneurs in particular face challenges in the access to digital financial services, global markets and technical support networks needed to adopt innovation (Muhammed et al., 2022). Cultural factors such as fear of digital disruption, lack of trust in digital systems, and lack of managerial awareness are also contributing factors to slow technology diffusion (Akhlagh et al., 2013). Consequently, many entrepreneurial ventures in Nigeria find it difficult to convert digital opportunities to performance gains and are, as a result, plagued by low level of competitiveness, low level of scalability and high level of business failure rates (Mohammed, 2023; Chen et al., 2024).

2.1.2 Innovation Capability (IV2)

Concept of Innovation in Entrepreneurship

Innovation capability describes the capacity of a firm to create, absorb and implement new ideas that result in improved processes, products or business outcomes. When applied to the context of an entrepreneurship, it is considered a strategic determinant of sustainable performance and assists firms to react safely to various dynamic market conditions and consumer demands (Abbas et al., 2020; Abdelkareem, Battour and Al-Awlaqi, 2022). The capability of innovation goes beyond creativity to being that capability on how to use resources, technology and knowledge systematically to generate value and sustained competitiveness. High innovation ability entrepreneurs are positioned better to utilize opportunities and reduce uncertainties in a market particularly in the technology-driven sectors (Ungerman, Dedkova & Gurinova, 2018). The unique competencies and the acquisition of differentiation are also developed based on these

capabilities, and this agreement is also always in line with the Resource- Based View (RBV) approach to strategic management (Baumol, 2004; Mohammed, 2023).

Product, Process & Business Model Innovation

Entrepreneurship requirements are depicted as being innovative in three dimensions which are intertwined namely in product innovation, process innovation and business model innovation. Product innovation is the process of creating new or much-improved goods to attend to the changing needs of the differing customers whereas process innovation is a term related to improving the functioning of the production process, operating workflows, and service delivery (Armbruster et al. 2008). Business model innovation on the other hand redefines the way in which value is created and captured through perhaps digital platforms, subscription services, and ecosystem partnerships (Acedo & Jones, 2007). Empirical evidence shows that SMEs who integrate these innovation types are characterized by a higher adaptability level and profitability (Akhlagh et al., 2013; Chen et al., 2024). However, in the emerging markets where competition is intense, the integration of the digital technologies and creative procedures has given business proprietors an opportunity to design such resilient and scalable business designs (Yu, Wang and Moon, 2022; Mohammed, Shanmugam, Subramani and Pal, 2024).

Entrepreneurial Creativity & Problem-Solving

Innovation capability requires creativity and problem-solving. Those entrepreneurs with the aptitude of creative thinking can be more inclined to spot prospects in voids in the market, formulate responsive solutions and execute transformative changes into their enterprises (Abdelkareem et al., 2022). Creative problem solving also enables entrepreneurs to solve the environmental uncertainty by developing new strategies through the integration of technology, strategy and human resource competences (Ahammad et al., 2021; Mohammed and Sundararajan, 2023). Moreover, the entrepreneurial innovativeness is a cognitive capability of experimentation and constant enhancement - essential qualities of innovation-based development (Amor, 2000). It is in digitalized markets that entrepreneurs who can portray creative cultures can be in a position to

align technological opportunities to strategic objectives so that innovation may translate into actual success. This is where creativity, innovation, and technology uptake, particularly in SMEs established in a developing economy, can be of vital importance, with agility and adaptability being the main factors that can keep a company afloat or bankrupt (Gupta and George, 2016; Mohammed, 2023).

Strategic Innovation for Market Expansion

Entrepreneurial firms must have strategic innovation that would enable them to tap into new markets and win bigger segments of customers. Creative business models and operations using innovative digital tools, entrepreneurs will have an opportunity to enter the competitive markets in a short period of time and respond to consumer demands (Ungerman et al., 2018; Yu, Wang and Moon, 2022). In the business case of SMEs working in the developing economies, strategic innovation can assist with internationalization processes in an environment by fostering supply chain agility, production of adaptable and responsive products (to changing environments) (Ahammad et al., 2021; Acedo and Jones, 2007). The companies with a good innovation strategy can also seek growth opportunities and exploit technological advancements, which will be diversified in the market and a source of long-term growth (Mohammed, 2023). Moreover, the innovation-led companies embrace the concepts of continuous improvement - such as digital upgrades, flexible operations and ecosystem collaboration where companies could be able to enhance their competitiveness in local or global markets (Abdelkareem et al., 2022; Mohammed et al., 2024).

Innovation as a Driver of Business Differentiation

The concept of innovation capability is well-known as a major source of differentiation - entrepreneurial companies can formulate distinct more or less unique propositions around their value to consumers that differentiate them among other companies. Due to product innovation, entrepreneurs have the opportunity to add new functionalities and quality, as well as customer-friendly features and characteristics than enhance customer satisfaction and loyalty (Akhlagh et al., 2013; Chen et al., 2024). Another significant

differentiation activity is process and marketing innovations particularly in the respect of perfecting the effectiveness of the operating process and business place analytics (Armbruster et al., 2008; Gupta and George, 2016). In the digital entrepreneurship, entrepreneurship, and entrepreneurial ventures companies with capabilities of data analytics, automation, and digital platforms, they will be able to customize its offer and engage with customers more efficiently and at more advanced levels having the bases of RBV foundations (Mohammed and Sundararajan, 2023; Amor, 2000). In addition, differentiation based on innovation is a requisite to turbulent and technology intensive setting where an organization has to change quickly to remain relevant. The better performance outcomes and resilience of SME in investing behaviour in creative and R&D collaboration as well as technical capability is showing performance towards breaking the market down (Abdelkareem et al., 2022; Al-Muafaq, 2009).

2.1.3 Entrepreneurial Success (DV)

Concept and Dimensions of Entrepreneurial Success

Entrepreneurial success is a complicated construct that involves some financial and non-financial factors that reflect the extent of business venture success and sustainability. Success has always been defined in terms of profitability, revenue growth and market share, but recently other facets such as innovation, customer satisfaction, social responsibility and long term sustainability are being expounded (Abbas et al., 2020; Mohammed and Sundararajan, 2023). The success of the entrepreneurial activities in the digital economy in most instances depends on the level to which the companies have internalized the digital technologies and the ability to innovate these innovations to their business core strategies to generate value, in addition to maintaining their own competitiveness (Benny Ong Ming Zhe & Abdul Hamid, 2021; Baumol, 2004). Not only the result of the business performance is success but also the manifestation of adaptive capabilities, the orientation to the learning and responsiveness to the breaks offered by the factors of environment that cultivate the Resource-Based View (RBV), which emphasizes the significance of internal competencies and the source of enduring

advantage (Wernerfelt, 1984; Barney, 1991). In addition, the success of entrepreneurship is context-dependent. In developing economies, it tends to be associated with survival, resilience and ability to innovate in spite of infrastructural, financial and policy constraints (Mohammed et al., 2023; Sundararajan & Mohammed, 2022). Hence, digital transformation and innovation capability become enormously important enablers to entrepreneurial progress and sustainable growth.

Financial Performance, Growth, and Competitiveness

Financial performance is the best visible measure of entrepreneurial success which could be measured in terms of profitability ratios, sales turnovers, return on investment, and growth in revenues (L.S. Aiken, S.G. West & R.R. Reno, 1991). However, it has been pointed out by scholars that these metrics are not sufficient to capture the holistic nature of value created in terms of innovation and digital transformation (Abbas et al., 2020). SMEs that adopt digital technologies and innovation-driven strategies are shown to exhibit better operational efficiency, cost optimization, and resource utilization, which are translated into better financial results (Benny Ong Ming Zhe & Abdul Hamid, 2021). In Malaysia and Nigeria for instance, SMEs that have used automation, data analytics, and e-commerce platforms reported increased performance with boosts in competitive positioning (Mohammed, 2023; Mohammed & Sundararajan, 2023). Digital transformation has also enabled entrepreneurs to compete outside the local markets by enabling quick and large-scale scaling as well as diversification of the revenue streams (Baumol, 2004). Thus, the financial growth and competitiveness may be as ease the cumulative experiences of strategic innovation, successful technology adoptions, and agility of any enterprise.

Customer Satisfaction and Market Share Metrics

Non-financial indicators like customer satisfaction, market share, brand loyalty and innovation reputation, etc. are equally important in assessing entrepreneurial success (Abbas et al., 2020; Mohammed et al., 2024). These dimensions focus on the capacity of the entrepreneur to

provide better value propositions and sustain long-term relations with clients by innovative and technology-based offerings. In the digital environment, entrepreneurs are using customer analytics, online feedback mechanisms, and personalized digital services to comprehend customer needs and enhance customer satisfaction (Mohammed, 2023). Studies, both in emerging and developed markets, confirm that customer-centric innovation is an objective to pursue if companies want to sustain market share and competitive advantage (Abdelkareem et al., 2022; Akinwale et al., 2020).

Sustainability in Entrepreneurial Ventures

Sustainability has become an integral facet of entrepreneurial success not least due to the rapid changing digital and global business environment. Sustainable entrepreneurship is not only about creating economic value for others, but also about sustainability, responsibility for the environment, social change and long-term continuity of implementing a sustainable business (Mohammed et al., 2024; Sundararajan & Mohammed, 2023). Entrepreneurs investing in digital technologies and innovation-driven approaches are better equipped to determine how to achieve sustainability as these tools and strategies increase efficiency, make wasteful operations and enable data-driven decision-making strategies that keep track of global trends in sustainability (Mohammed, 2023). According to the Resource-Based View (RBV), access to unique internal capabilities, such as technological flexibility and innovation capability, can allow firms to achieve long-term growth and competitive stability (Barney, 1991; Wernerfelt, 1984). In addition, digital innovation permits an entrepreneur to be resilient to market shocks that are dynamic like economic downturns, technological shifts and changing customer demands. This is particularly true when it comes to the developing economies in which successes of entrepreneurial ventures are usually high (Mohammed and Sundararajan, 2023).

Challenges in Achieving Long-Term Success

Although there are ideas on how to grow and remain sustainable, the challenges that the entrepreneurs have encountered, particularly those in Africa and other developing states, do not allow them to succeed in the long run. The limited

access to advanced technologies, a low level of digital skills, the insufficient level of funding, inadequate infrastructure and unfavourable policy environments (Mohammed et al., 2022; Akinwale et al., 2020) are these limitations. Technology adoption is likely to be slowed down with structural issues such as excessive cost of digital solution, change resistance, and cyber-security (Mohammed, 2023). Low investment in research and development (R&D), low integration with academic and industrial partners, and exposure to the global world also do not offer too much innovation capability (Sundararajan and Mohammed, 2022). Moreover, competition in the market, regulatory situation, and the inability to expand past startup are also the issues faced by entrepreneurs (Mohammed & Sundararajan, 2023). All these factors have a cumulative impact on the challenges of sustainability and hence adoption and innovation potential of digital technologies is a key strategic theme that will guarantee the success of the entrepreneurship and its viability.

2.2 Theoretical Framework

The theoretical foundation of this research is based on two complementary constructs, that is, the Technology Acceptance Model (TAM) and the Resource-Based View (RBV). Collectively, the theories describe how the digital technology adoption and capabilities of innovation influence entrepreneurial performance.

Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) as introduced by Davis (1989), is generally applied to grasp both determinants affecting the individuals to adopt and use technology. TAM presumes that ease of use and perceived usefulness are the primary defining parameters of technology adoption behaviour. When applied in the context of entrepreneurship, TAM provides an opportunity to examine how the entrepreneurs adopt digital tools, cloud computing, Artificial Intelligence, and analytics to transform the operations of their business, making it more efficient and gives them an advantage compared to the other competitors (Mohammed, 2023; Sundararajan and Mohammed, 2023). The role of TAM is particularly topical when we refer to the developing economies, including Africa and West Africa; the low level of digital literacy, the

absence of proper infrastructure, and reluctance to adopt new technologies may influence the shift of adoption. Through TAM, this paper is exploring the influence of entrepreneurial perception of digital technology on the behaviour of adoption that has a substantial influence on the performance of business and sustainability (Aliyu Mohammed, 2024; Mohammed et al., 2024).

Resource-Based View (RBV)

The Resource-Based View (RBV), which was introduced by Wernerfelt (1984) and subsequently developed by Barney (1991) and emphasizes firm-specific resources and capabilities as sources of sustained competitive advantage. RBV claims that such resources which are valuable, rare, inimitable and non-substitutable (VRIN) enable firms to function well than the rivals. In this research, innovation capability such as product, process and business model innovation is perceived to be an important strategic tool to be possessed by entrepreneurial ventures enabling them to differentiate themselves, scale or scale up, and reach for long term success (Mohammed & Sundararajan, 2023; Shanmugam Sundararajan et al., 2024). RBV is especially useful in explaining how firms harness internal capability, such as technological prowess and innovative problem-solving ability, in order to ensure entrepreneurial success and sustainability, especially in competitive or resource constrained environments such as Nigeria and West Africa.

Rationale for Theory Selection

The integration of TAM and RBV helps the reader understand entrepreneurial success in a holistic manner. TAM is a way to explain how and why digital technologies are adopted by entrepreneurs while it asks the behavioural aspects and RBV explains how the internal resources, particularly innovation capabilities, are drivers of competitive advantage and long-term success (Mohammed et al., 2023; Sundararajan & Mohammed, 2023). This dual theory approach enables this research to explore the dual role of examining the process of adoption and the strategic application of technology and innovation to give an overall context in the explanation of entrepreneurial performance in diverse settings with a global to the continent to West Africa as Nigeria SMEs.

2.3 Linkages between Theories, IV, and DV

This paper elaborates on the idea of defining relationships of digital technology adoption (IV1), innovation capability (IV2) and entrepreneurship success (DV) through the use of the Technology Acceptance Model (TAM) and the Resource Based View (RBV). The connection is described in the following way:

Digital Technology Adoption and Entrepreneurial Success

The use of digital technology assists the entrepreneur to incorporate various tools in the business activity such cloud computing, artificial intelligence, data analytics, and digital platforms. TAM states that these technologies have a perceived usefulness and ease of use that impact the behaviour regarding adoption; it, in turn, improves the functioning, decision making and interaction with customers (Mohammed, 2023; Aliyu Mohammed, 2024). Empirical research studies of the developing economies (including Nigeria and West Africa) report that the technology use positively impacts firm performance in terms of process streamlining, enhanced communication and area scope (Sundararajan and Mohammed, 2023; Yu, Wang and Moon, 2022). Therefore, adoption would be a direct influence on the success of the entrepreneurship by impacting the performance indicators and enabling startups to respond to the changeable market conditions in a holistic manner to address the issue.

Innovation Capability and Entrepreneurial Success

According to RBV, innovation is a strategic asset of the firm that can be used to acquire a

sustainable competitive advantage particularly internal firm capability (Barney, 1991). Capacity to innovate- as in product process and business model- is helpful in enabling entrepreneurs to capture new markets, and to facilitate their sustaining revenue growth in the long term (Mohammed & Sundararajan, 2023; Shanmugam Sundararajan et al., 2024). Research shows that companies that have strong innovation are better positioned to adapt to changes in the environment to create value and achieve culminating financial and operational performance (Abdelkareem, Bettor, and Al-Awlaqi, 2022; Afolayan et al., 2015). Innovation, thus, serves as an intermediary between the adoption of technology and the success of an entrepreneur and makes technological investments to bear fruit in terms of business tangible results.

Combined Influence on Entrepreneurial Success

The integration of the adoption of digital technology and innovation capability create a synergic effect on the entrepreneurial success. Technology adoption ensures efficient operations and innovation capability enables firms to exploit these technologies strategically in order to differentiate their markets and grow sustainably. Together, they increase key dimensions of entrepreneurial success, including: financial performance, market share, customer satisfaction and sustainability (Mohammed et al., 2024; Sundararajan & Mohammed, 2023; Al Mamun, 2017).

Integrated Theoretical Linkage

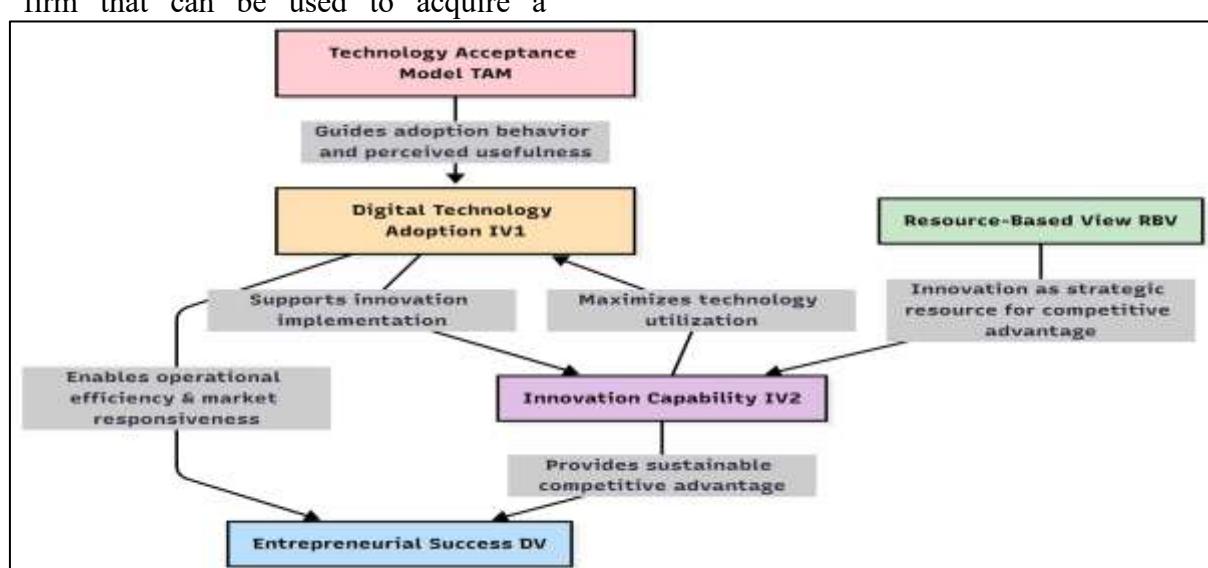


Figure 1: Integrated Theoretical Framework of Digital Technology Adoption, Innovation Capability, and Entrepreneurial Success

Source: Developed by the authors based on Davis (1989), Barney (1991), and Mohammed et al. (2023).

Figure 1 shows the integrated theoretical framework of digital technology adoption and innovation capability to entrepreneurial success. The diagram draws attention to the way TAM explains the behavioural adoption of digital technologies by entrepreneurs that focuses the usefulness and ease of use, identified as the key factors, while RBV sets innovation capability as a strategic resource driving competitive advantage. Digital technology adoption directly improves operational efficiency and market responsiveness and overall performance in businesses. At the same time, innovation capability enhances sustainable competitive advantage through product, process and business model innovations. The two-way connection between the technology adoption and innovation capability suggests a synergy effect in which technology makes it possible to implement innovation solutions, while innovation maximizes the effective use of technology. Collectively this integrated model shows that entrepreneurial success is both dependent upon the adoption of digital technologies as well as upon being able to strategically deploy innovation capabilities.

2.4 Empirical Review

In the recent years, empirical studies have shed light on the large influence of digital technology adoption to improve performance in business. For example, in a study of Malaysian SME, digital transformation (including business model changes and the introduction of digital tools) had a positive impact on competitive advantage and performance, although many companies still struggled with digital transformation due to a lack of resources and resistance to change (Maisarah & Yusof, 2022). Another investigation of Nigerian SMEs revealed a positive relationship between digital adoption (including cloud computing, e-commerce and mobile-commerce) and business performance, thus supporting the notion that digital uptake in emergent markets is a contributor to operational efficiency and growth (Sheikh Khairuddin & Olowosuyi, 2024). These finds

emphasize the behavioural adoption logic of Technology Acceptance Model (TAM), which holds that acceptance of technology depends on perceived usefulness and ease of use of technology in order to lead to the adoption of that technology for better performance.

Parallel to the digital adoption, innovation capability has an empirical prove of being a driver of sustainably entrepreneurial performance and centre of competitive differentiation. A study carried out in Sri Lanka showed that the innovation capability had a strong positive direct effect on the sustainability of SME, while disruptive technology and knowledge creation partially mediated between the two (Sustainability, 14(17), 10832). On the same basis, a SME-based study in Nigeria reported that innovation capabilities had a significant positive impact on the sustainability of business activities in the country as organizational resilience and environmental dynamics mediated the effect (MDPI, 16(21), 9201). These empirical outcomes are consistent with the Resource Based View (RBV) suggesting that internal capabilities such as innovation confer competitive advantage in the long-term instead of just short term performance boosts.

When the focus is turned on the developing economies - especially Africa and Asia - the empirical evidence shows both positive results and key persistent constraints. In Africa, for instance, The Web of Science studies demonstrate the role of digital infrastructure, skills deficit, and institutional void in moderating the entrepreneurial venture's adoption and performance relationship (Innovative Entrepreneurship 47:1198-1223). In Asia, Malaysia study on digital transformation in SMEs, managerial capability, technical capability and digital strategy was found to have significant impact on digitalisation efforts (Ammeran & Latip, 2024). These contextual studies turn attention to the fact that although digital adopting and innovation capability are necessary conditions, they are not sufficient, because the external environment (infrastructure, policy, culture) and entrepreneurial competencies play crucial moderating roles. For Nigeria specifically, studies have highlighted that even though innovation capability supports sustainability

(Lagos SMEs study), yet the nexus of digital adoption and innovation capability on entrepreneurial success is yet to be explored - presenting a gap which this current study would mitigate.

2.5 Research Gap

Despite the expansion of the studies on digital technology adoption and innovation capability separately, there is a noticeable paucity of studies that focuses on the combined effect on entrepreneurial success. While previous research projects have revealed that digital tools, such as cloud computing, AI, and data analytics, lead to changes in efficiency and responsiveness toward the market (Maisarah & Yusof, 2022; Sheikh Khairuddin & Olowosuyi, 2024), and that innovation capabilities create sustainability and competitive advantage (Sustainability, 14(17), 10832; MDPI, 16(21), 9201), very few studies have combined these two important factors. This conceptual gap inhibits the understanding of the interaction between digital technology and innovation capability on entrepreneurial performance in small and medium enterprises (SMEs). Furthermore, most empirical studies focus on the developed economy or isolated context with little attention paid to emerging markets such as Africa and Asia. For example, although research in Malaysia and Sri Lanka points to the success of technology adoption and innovation capability in boosting business achievement, the context specific constraints such as infrastructural voids, institutional voids and managerial skills gap in emerging economies are understudied (Ammeran & Latip, 2024; Innovative Entrepreneurship 47:1198-1223). In Nigeria, though several studies have been conducted on the capability of innovation and the sustainability of SMEs separately, there is little evidence on how entrepreneurs in resource constrained environments utilize both digital technology and innovation for long term business success. This geographical and contextual gap is of significance because entrepreneurial dynamics in emerging markets tend to often be very different from developed contexts.

Finally, there are methodological gaps in the existing literature, and in particular, there are perspectives of conceptual integration of multiple constructs. Many studies are conducted using single approach method or examining the linear relationship without discussing the mediating or moderating effect that might exists between digital technology adoption, innovation capability, and entrepreneurship success (Mohammed et al., 2023; Abdelkareem et al., 2022). Additionally, there are few studies that provide an integrated theoretical framework with the combination of the Technology Acceptance Model (TAM) and the Resource-Based View (RBV) to understand how entrepreneurs adopt technology and use innovation as a significant strategic resource to achieve competitive advantage. Addressing these conceptual, contextual and methodological gaps is imperative to offer more complete understanding of pathways in which digital adoption pathways and innovativeness capability of entrepreneurs lead to entrepreneurial success in emerging markets.

2.6 Conceptual Framework of the Study

The conceptual framework for this research shows the role of innovation (Digital Technology Adoption (IV1)), innovation capability (IV2), and entrepreneurial success (DV). Digital technology adoption is expected to directly increase entrepreneurial success, by operational efficiency, reacting to the market and data-driven decision making. Innovation capability contributes providing a sustainable competitive advantage through product, process and business model innovation. Additionally, the framework assumes that the adoption of digital technology aids in the effective implementation of innovation and the innovation capability makes the best use of the digital tools with a synergistic effect furthering the entrepreneurial outcome through innovation. The directional relationships reflect a sum total of the effect of technology adoption and innovation in attaining financial performance, growth, competitiveness, and sustainability for the long term in entrepreneurial ventures.

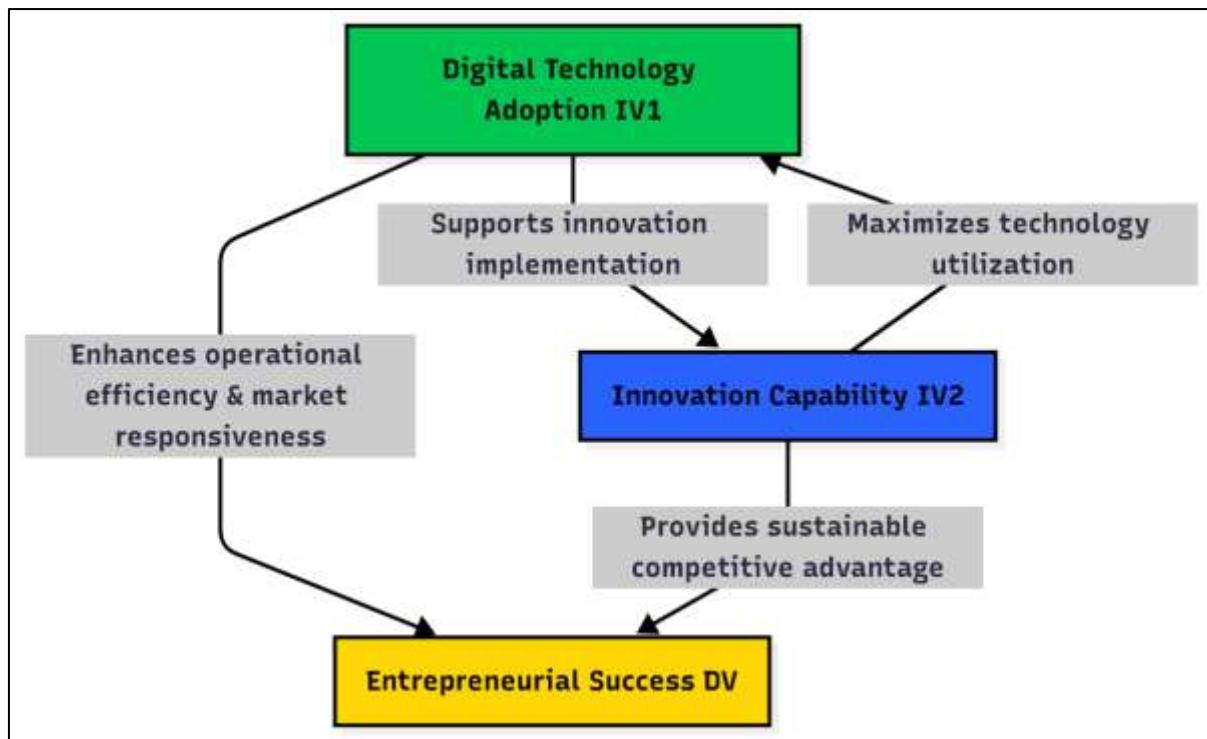


Figure 2: Conceptual Framework Linking Digital Technology Adoption, Innovation Capability, and Entrepreneurial Success

Source: Developed by the authors based on Davis (1989), Barney (1991), and Mohammed et al. (2023).

The conceptual framework of the interaction between Digital Technology Adoption (IV1), Innovation Capability (IV2) and Entrepreneurial Success (DV) is shown in Figure 1. Adolescence of digital technology boost operational efficiency as well as market responsiveness that affect directly entrepreneurial success in terms of faster decision-making, process automation, and customer engagement. Innovation capability, on the other hand, helps to bring unprecedented competitive edge through creativity, process innovation and strategic differentiation in the market. The relationships between the IV1 and the IV2 are two-way, i.e., the technology adoption contributes to the implementation of innovative strategies; on the one hand, the ability to innovate, on the other hand, the effective use of digital tools can be maximized. In sum, the model in this case appears to indicate that entrepreneurs, who integrate the adoption of the digital technology with innovative good practices, are likely to have a higher chance of success with respect to an enhanced performance, a financial growth, a

competitive position in the market, and a long-term sustainability.

3.0 Research Methodology

This paper has used conceptual research design that is appropriate in the discovery of theoretical relationship between the adoption of digital technology to innovation capacity, entrepreneurial success. Since this is a conceptual paper, the focus is made on synthesis of existing knowledge, integrating empirical results, and elaborating an effective framework and not gathering primary information. The approach enables a deep theoretical analysis, which relies on the known models for theory of change such as the Technology Acceptance Model (TAM) and Resource Based View (RBV), which is used to guide the conceptualization of relationships among variables. A systematic literature analysis was used in order to ensure the rigorous and comprehensive analysis of previous studies. Peer-reviewed journal articles, conference proceedings and authoritative reports on the subjects of entrepreneurship, technology adoption, innovation capability and business performance were reviewed. The literature has been chosen to represent both global perspectives as well as the evidence obtained in the emerging markets including Africa and Nigeria to highlight the variation in context. The nature of the analysis

was to hear patterns, contradictions, and gap across studies to serve as a background to develop the conceptual framework and to justify the theoretical propositions of the study.

Finally, a model development approach was used to synthesize the identified variables in a coherent conceptual framework. The framework reveals direct and indirect effects of digital technology adoption and innovation capability on entrepreneurial success with a focus on bi-directional and synergistic effects. The process of development was based on triangulation of theoretical understanding with the empirical evidence from previous research to achieve robustness and relevance. The resultant model offers a basis for future empirical verification and practical advice for entrepreneurs and policymakers interested in ensuring that they use technology and innovation to the benefit of business growth and sustainability.

4.0 Expected Findings

1. Influence of Digital Technology Adoption on Entrepreneurial Success: The study expects to observe that digital technology adoption inclusive of cloud computing, AI, data analytics, and other forms of digital technologies will strongly and positively impact entrepreneurial success. Adoption of these technologies is expected to improve efficiency, market responsiveness and scalability of business that ensue in operational efficiency for Nigerian entrepreneurial ventures which is in line with global trends in digital entrepreneurship.

2. Impact of Innovation Capability on Entrepreneurial Success: By virtue of the fact that innovation capability, which involves innovations in product, process and business models will play a major role in the success of entrepreneurial ventures, it seems that innovation capability. The companies that exhibit high innovation levels will tend to receive most market differentiation, customer satisfaction and competitive gains that underlies the RBV hypothesis that internal resources are they key determinant of success in the long term.

3. Mediating Role of Innovation Capability: The role of innovation capability is supposed to mediate the relationship existing between entrepreneurial success and the adoption of digital technology. Digital technologies are

supportive of facilitating the translation of innovative idea, and innovation possibility will actually guarantee such technologies are implemented to drive real performance performance and hence validate the combined TAM-RBV theoretical perspective.

4. Factors that will Enhance Sustainability and Competitiveness: The research anticipates the realization of strategic digital and innovation-driven factors such as incorporation of strategic technology, lifelong learning, entrepreneurial creativity, and agility that will enhance the sustainability and competitiveness of SMEs and start-ups in Nigeria and other developing economies.

5. Contribution to Theory and Entrepreneurial practice: Theoretically, the study is likely to make a contribution to theory by achieving the accomplishment of digital technology adoption and innovation capability aggregation into an integrative framework to enjoy entrepreneurial achievements. In practice, it is sure to generate practical knowledge to the entrepreneurs and the policy makers in order to take advantage of the potential of the technology and innovation in sustainable growth of their businesses.

5.0 Recommendations

1. Digital Technology Adoption: Investing in the state-of-the-art digital tools, platforms and infrastructures like cloud solutions, AI and data analytics might enable the entrepreneur to be more operationally efficient and enable him to business do better, as well.

2. Build Innovation Capabilities: The firms need to build innovation capabilities within their organization through persistent product, process and business model innovation that enables the business to achieve and maintain competitive advantage in the active markets.

3. Use Innovation as a Maximizing Approach Technology: Businesses must focus their efforts on guaranteeing the digital technology adoption process and innovation efforts are aligned to maximize the results of technology investments and responsiveness in the market.

4. Growth in Sustainability and Competitiveness: Entrepreneurs and SME are expected to pay attention to agility, strategic

alliances, skills, continuous development, and market-oriented innovation to guarantee long-term sustainability and competitiveness.

5. Policy and Strategic Support: Policymakers and institutions are supposed to be enabled in terms of making investments in digital infrastructure to support the introduction of initiatives, training based on incentives and training programs targeted at innovation to transform the growth entrepreneurs.

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