

Relationship between Digital Transformation and Innovation Capability in Driving Entrepreneurial Competitiveness

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Abstract

Original Research Article

This conceptual paper looks into the connection between e-transformation and the ability to innovate as an element to create business competitiveness. The objective of the research is to investigate the influence of multidimensional digital transformation efforts such as digital strategy, digital technology adoption, digital culture, and digital capabilities on the level of innovation capability, consequently, in the level of entrepreneurial competitiveness in the terms of market performance, financial performance, and growth potential. The four objectives of the research assist in the study to investigate the relationship between digital transformation and entrepreneurial competitiveness, evaluate the effect of innovation capability on entrepreneurial competitiveness, investigate the effect of digital transformation on innovation capability, and provide the strategies to utilize digital transformation and innovation capability to establish sustainable competitive advantage. Through conceptual research design, the paper integrates the findings of 54 academic publications (journals, books, conference papers) be it Resource-Based View (RBV), Dynamic Capabilities Theory, or the Technology-Organization-Environment (TOE) framework. The research forms a conceptual framework that shows the hypothesized connections between digital transformation, innovation capability and entrepreneurial competitiveness. The major results also indicate that digital transformation is a capability driver of innovation that mediates its impact on entrepreneurial competitiveness with the necessity to strategize and invest in digital capabilities and promote the culture of innovation in entrepreneurial ventures. The research also adds to the theoretical knowledge and provides management advice to SMEs and startups interested in using digital and innovative strengths to create sustainable competitive advantage.

Keywords: Digital Transformation, Innovation Capability, Entrepreneurial Competitiveness, SMEs, Technology Adoption.

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1.0 Introduction to the Study

1.1 Background of the Study

The digital transformation has proved to be one of the most important forces of competitiveness and innovation in the global industries. Digital

technologies become more and more valuable in organizations trying to promote efficiency of operations, develop new business models, and increase overall performance (Yu, Wang, and Moon, 2022; Li, Khong-Khai, Leelapattana, and Tsai, 2024). Digital capabilities have proven to have a



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positive impact on the performance of firms at the firm level, especially in the manufacturing, agribusiness, and service industries, where the adoption of technology boosts productivity and contributes to sustainable growth (Sui, Jiao, Wang, and Wang, 2024; Aliyu Mohammed, 2023). It has been proposed that the alignment of organizational goals with digital strategies is the key to tapping into innovation potentials and becoming an entrepreneur in the modern business environment (Sundararajan and Mohammed, 2023). The use of digital technologies in Africa is becoming increasingly popular as one of the ways to fuel entrepreneurship, enhance the performance of firms, and promote economic growth. Digital transformation allows companies to enter the wider markets, streamline their production lines, and use innovative practices that can increase their competitive advantage (Yao, Dato'Mansor, Ghazali, and Yan, 2024). Research has emphasized how technology-led initiatives can be used to assist SMEs to surmount resource endowment, deal with the turbulence in the market, and react promptly to evolving consumer demands (Cobbinah, Osei, and Amoah, 2025). The African business is becoming aware of the fact that digital infrastructure, reskilling of the workforce and agile management practices are becoming the tool that enables innovation capacity and sustainability in the long term (Aliyu Mohammed, 2023, May 11).

In West African sub-region, digital transformation is a competitive advantage driver to emerging and established businesses. The digital solutions are being embraced by the firms in Ghana, Nigeria, and Senegal to create efficient operations, improved supply chain management, and development of entrepreneurs (Cobbinah, Osei, and Amoah, 2025; Luu, 2023). The strategic orientation of SMEs is increasingly being determined by cross-border e-commerce and technology-based managerial practices (the focus on dynamic capabilities to manage the complex environment of the market is a requirement) (Yao et al., 2024). Additionally, digital efforts in West Africa are also being connected to innovation capability that helps firms to produce differentiated products and services that strengthen their competitiveness (Sui et al., 2024). Digital transformation will specifically play a key role in

making entrepreneurs more competitive in the technology and software development industry in Nigeria. The empirical research demonstrates that the investments into digital tools, agile performance management system, and upskilling the workforce have a positive impact on the result of innovation and performance of the firm (Aliyu Mohammed, 2024). To enhance their market penetration, efficiency in operations, and planned decision making, Nigerian SMEs and entrepreneurial enterprises are progressively incorporating digital capabilities (Aliyu Mohammed, 2023). The changing digital environment, along with the specifics of developing skills, highlights the importance of innovation capability as a factor of improving entrepreneurial competitiveness, both in terms of challenges and sustainable development prospects of the Nigerian economy (Li et al., 2024; Yu et al., 2022).

1.2 Problem Statement

Although the digital transformation has become an important element shaping the innovation and entrepreneurial competitiveness, there are still numerous businesses struggling to capitalize on the digital technologies in order to jumpstart their innovativeness. Research all around the world reveals that companies fail to match digital adoption with strategic goals to perform optimally and to have competitive advantages (Azizi, Hanoum, Purnomo, and Gandolfi, 2025). This is because, in industries including automotive parts and smart manufacturing, the disconnect between technological capacity and absorptive capacity tends to negatively affect the capacity of firms to innovate and adapt to the ever-changing market requirements (Kumar, Mohammed, Raj, & Sundaravadivazhagan, 2024). Small and medium size enterprises (SMEs) are also subject to other limitations especially when it comes to funding digital projects. Digital transformation initiatives that are based on finance have demonstrated potential regarding the ability to drive performance, but companies often face the difficulties with resources and the need to support innovation-focused strategies (Alalwan et al., 2024). The multinational business community also faces regulatory, operational, and market instability in the global trade and e-commerce environment that negatively affect

the capacity to maximize the digital marketplace to pursue entrepreneurial development (Mohammed, 2023). Both developed and emerging markets in the SME environment depict that the effect of digital transformation on innovation performance is still disproportionate. As an example, they are successful in digital adoption, digital culture, and digital drive, whereas most companies fail to incorporate them into the system, which leads to inconsistent innovation performance and weak competitiveness (Wang and Zhang, 2025; Prihandono, Wijaya, Wiratama, Prananta, and Widia, 2024). It is further complicated by the necessity to balance environmental and economic sustainability in the areas where the shortage of resources and insufficient infrastructures is widespread (Lawal, Abdulsalam, Mohammed, and Sundararajan, 2023). Similarly, SMEs in certain regional situations, including the UAE and other Middle Eastern markets, have opportunities, as well as challenges, in executing the process of digital transformation to become competitive as entrepreneurs. Although digital initiatives have the potential to increase the firm performance and positioning in the market, the challenge in executing the strategy, introducing new technologies and aligning them with business processes is often faced by the company, creating a gap between the digital potential and the achieved innovation outcomes (Salman, Mansor, and Alshami, 2025; Mohammed, 2023). This highlights the essence of an abstractual perception of the interaction between digital transformation and the capacity of innovation in producing the entrepreneurial competitiveness, especially in the situations when the firms are required to strike the balance between the technological, financial and strategic limits.

1.3 Significance of the Study

The importance of the research is that it could contribute to the knowledge and practice in digital transformation in enhancing the competitiveness of entrepreneurs. A strategic use of digital technologies, including management information systems, can help companies increase the efficiency of the organization, improve the decision-making process, and the overall performance of the organization

(Mohammed, 2023). Through analyzing the interaction between innovation capabilities and digital transformation, the current study becomes a knowledge addition on the sustainable competitive advantage and value creation in various business settings (Sookbumroong and Phornlaphatrachakorn, 2023). Policymakers and corporate leaders can utilize this research to design meaningful structures and policies that help in digital innovation, investment in technology, as well as how to enhance the entrepreneurial ecosystem (Mohammed & Sundararajan, 2023). Knowledge of the organizational abilities needed to achieve digital innovation enables companies to better cope with change, enhance strategic alignment, and become stronger in response to the changes in the dynamic market environment (Motamedimoghadam, Mira da Silva, and Amaral, 2025).

The study offers both empirical and conceptual data applicable to emerging markets, including Africa, e.g. Zimbabwe, where service-related companies may attain better performance with the help of digital transformation programs (Mataruka, Zishiri, Muzurura, Mkumbuzi, & Garatsa, 2024). This study indicates the ways through which the SMEs and startups can achieve their growth, sustainability, and competitive place by connecting digital transformation to innovation capacity (Mohammed and Sundararajan 2023; Alharthi 2025). Lastly, the research is relevant to the field of entrepreneurship courses and leadership. It provides insights which can be used to better inform training programs, leadership strategies, and capacity-building efforts to develop digitally able and innovative entrepreneurs in a variety of industries by perhaps focusing more on the interaction between technology acceptance, innovation, and entrepreneurial orientation (Mohammed & Sundararajan, 2023; Mohammed & Sundararajan, 2023; Mohammed & Sundararajan, 2023).

1.4 Research Objectives

The study aims to achieve the following objectives:

1. To examine the relationship between digital transformation and entrepreneurial competitiveness.

2. To assess the impact of innovation capability on enhancing entrepreneurial competitiveness.
3. To explore how digital transformation influences innovation capability in entrepreneurial ventures.
4. To identify strategies for leveraging digital transformation and innovation capability to achieve sustainable competitive advantage.

1.5 Research Questions

The study seeks to answer the following questions:

1. What is the relationship between digital transformation and entrepreneurial competitiveness?
2. How does innovation capability impact entrepreneurial competitiveness?
3. In what ways does digital transformation affect innovation capability in entrepreneurial ventures?
4. What strategies can entrepreneurs adopt to effectively leverage digital transformation and innovation capability for sustainable competitive advantage?

2.0 Literature Review

In the research on digital transformation and innovation capability, it is underlined that it plays a vital role in making entrepreneurial endeavors competitive. Digital transformation provides a firm with technological, strategic, and cultural capabilities to meet the demands of a fast-changing market and innovation capability that ensuing development of new products, processes, and organizational practices can maintain a competitive advantage of a firm. In the global context, it has been demonstrated that the companies that embrace digital technologies and promote innovation are more responsive and efficient on the market than their competitors (Brynjolfsson and McAfee, 2014; Westerman, Bonnet, and McAfee, 2014).

2.1 Conceptual Framework

The conceptual framework of the proposed study is the mapping of the multidimensional relationships between digital transformation

(independent variable), innovation capability (mediating/moderating variable), and entrepreneurial competitiveness (dependent variable). It offers an organized insight into the interaction of various elements of a digital transformation and innovation ability to determine competitiveness results. The theoretical framework of this paper presents the correlations between digital transformation, innovation ability, and entrepreneurial competitiveness. Digital transformation is assumed to be an independent variable, which offers a technological and strategic base of innovation in organizations. The ability to innovate serves as a moderating/mediating variable that converts the digital investments into the performance results, subsequently resulting in entrepreneurial competitiveness. Past studies prove that digital transformation and innovation capability are synergistic and contribute to better performance of firms, their market agility, and long-term sustainability (Mohammed, Jakada, and Lawal, 2023; Mohammed, Shanmugam, Subramani, and Pal, 2024). The framework offers a holistic perspective of the role played by multidimensional digital initiatives in the processes of innovation to create competitive advantage (Kane, Palmer, Phillips, Kiron, and Buckley, 2015).

2.1.1 Digital Transformation

Digital transformation in the present study will be operationalized as a multidimensional concept that includes strategic, technological, and cultural aspects. Digital strategy and vision is a term used to describe the roadmap and priorities of the firm with regards to digital initiatives, and what the firm aims to accomplish through this action to align organizational objectives with the new emerging trends in the field of technology (Westernman, Bonnet, and McAfee, 2014). Digital adoption of technologies is a concept that entails the use of sophisticated digital tools, platforms, and Industry 4.0 solutions to streamline operations and develop innovation (Milošević, Plotnic, Tick, Stanković, and Buzdugan, 2024). Digital culture and leadership embodies the development of a culture of agility, innovation, and digital change at every rank of management (Brynjolfsson and McAfee, 2014).

Lastly, digital capabilities and skills indicate human and organizational abilities required to efficiently leverage digital capabilities and create the outcome of innovations (Mohammed, Sundararajan, and Lawal, 2022).

2.1.2 Innovation Capability

The process by which digital transformation is converted into entrepreneurial competitiveness is innovation capability. This multidimensional measure incorporates product innovation which is the development of new products and services to support evolving market demands (Yu, Zeng, and Zhang, 2025); process innovation, which is the development of new organizational structures, management practices and business models that enhance responsiveness and efficiency (Mohammed et al., 2024); organizational innovation which entails new types of organizational structures, management practices and business models which are responsive and efficient (Mohammed et al., 2024); and knowledge management and learning which involves the ability to utilize organizational knowledge. The combination of these dimensions means that digital transformation initiatives produce quantifiable competitive results.

2.1.3 Dependent Variable (DV) – Entrepreneurial Competitiveness

The dependent variable in this study is entrepreneurial competitiveness which is conceptualized as a unidimensional construct that shows the entrepreneurial capacity of the firm to beat competition as well as attain sustainable growth. Market performance is used to reflect how well the firm enjoys a market share, satisfies the needs of customers, and sustain a competitive advantage in

the ever-changing market (Shanmugam Sundararajan, Rajkumar, Senthilkumar, Mohammed, and Prince Martin, 2024). Financial performance is a factor of profitability, cost-effectiveness, and increase of revenues, indicating the economic results of taking advantage of digital transformation and innovation potential (Fitzgerald, Kruschwitz, Bonnet, and Welch, 2014). Growth potential highlights the ability of entrepreneurial activities to grow the business operations, scale technologies, and penetrate new markets both as a strategic vision and responsiveness in a competitive business environment (Sebastian, Ross, Beath, Mocker, Moloney, and Fonstad, 2017; Vial, 2019). The combination of the dimensions offers an overall measure of entrepreneurial competitiveness, which correlates digital and innovation capabilities with actual business results.

2.1.4 Conceptual Framework

Figure 2.1 depicts the conceptual model that shows how Digital Transformation affects the Entrepreneurial Competitiveness with the mediation of Innovation Capability. Digital Transformation includes strategic vision, technologies adoption, leadership and culture, and digital skills and capabilities. Innovation Capability takes under its wing product, process, organization innovation, and knowledge management practices. Entrepreneurial Competitiveness is indicated by the market performance, financial performance, and expansion potential. This model gives importance to the role of digital initiatives in fueling innovation that subsequently leads to competitive performance in entrepreneurial activities.

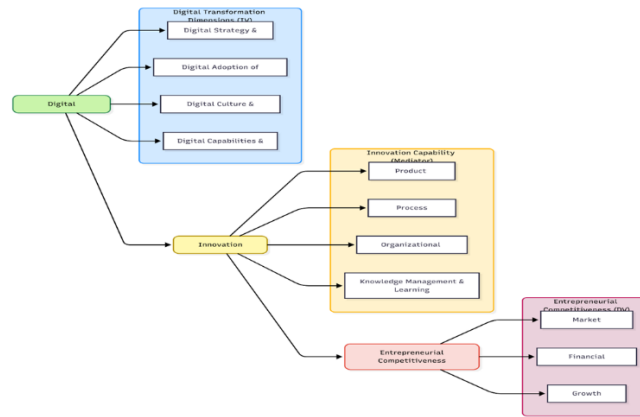


Figure 2.1: Proposed Conceptual Framework Linking Digital Transformation, Innovation Capability, and Entrepreneurial Competitiveness

Source: Researcher's Design (2025).

The framework implies that the Digital Transformation is a vital force of innovation in the entrepreneurial venture. Through the creation of a robust digital strategy, embracing up-to-date technologies, the culture of digital, and skill development, organizations create product, process, and organizational innovation capabilities. These capabilities are the mediator of effects of digital transformation on the competitiveness of entrepreneurs that leads to better market share, financial performance, and growth potential. The model highlights that effective digital programs should be accompanied by innovation practices to deliver sustainable competitive advantage in the dynamic business environment.

2.2 Theoretical Framework

Resource-Based View (RBV), Dynamic Capabilities Theory, and Technology-Organization-Environment (TOE) Framework are three well-established frameworks that the theoretical basis of the given research is anchored. The RBV highlights that in order to attain sustainable competitive advantage, firms need to use valuable, rare, inimitable, and non-substitutable resources, such as digital resources, knowledge in an organization, and human capital (Li, Su, Zhang, and Mao, 2018; Sundararajan and Mohammed, 2022). Digital transformation is thus understood as a strategic implementation of such resources to improve the

competitiveness of the entrepreneurs. The Dynamic Capabilities Theory is an addition to RBV that examines how a firm can be capable of integrating, building, and reconfiguring internal and external competencies in response to the rapidly evolving environments (Nambisan, Lyytinen, Majchrzak, and Song, 2017). The theory offers an insight into the role of innovation capability in mediating the connection between digital transformation and entrepreneurial competitiveness, because firms are forced to constantly evolve and innovate in an ever-changing environment to stay on the competitive advantage in unstable markets (Sundararajan, Mohammed, and Lawal, 2023). The TOE framework provides the contextual approach in which technological, organizational, and environmental factors come to play to assist a firm to adopt digital technologies (Verhoff et al., 2021; Chen and Zhang, 2014). This model reflects the interdependence between the internal preparedness (digital culture, leadership, and capabilities) and external forces (market competition, regulatory environment), a structured insight into why certain companies are able to successfully execute digital transformation programs and others fall behind.

2.2.1 Linkages between Theories and Variables

The RBV describes strategies through which firms can use digital resources through the provision of high-level information systems, digital skills, and

organizational knowledge to improve innovation ability and entrepreneurial competitiveness. The dynamic capabilities theory explains the way in which companies adjust and alter their processes, products and organizational routines to create new innovations and is the mediating force between digital transformation and performance results. In the

meantime, the TOE framework contextualizes the organizational adoption of the digital technologies in consideration of the technological availability, organizational preparedness, and environmental pressures, thus influencing the translation of digital transformation into the quantifiable entrepreneurial results.

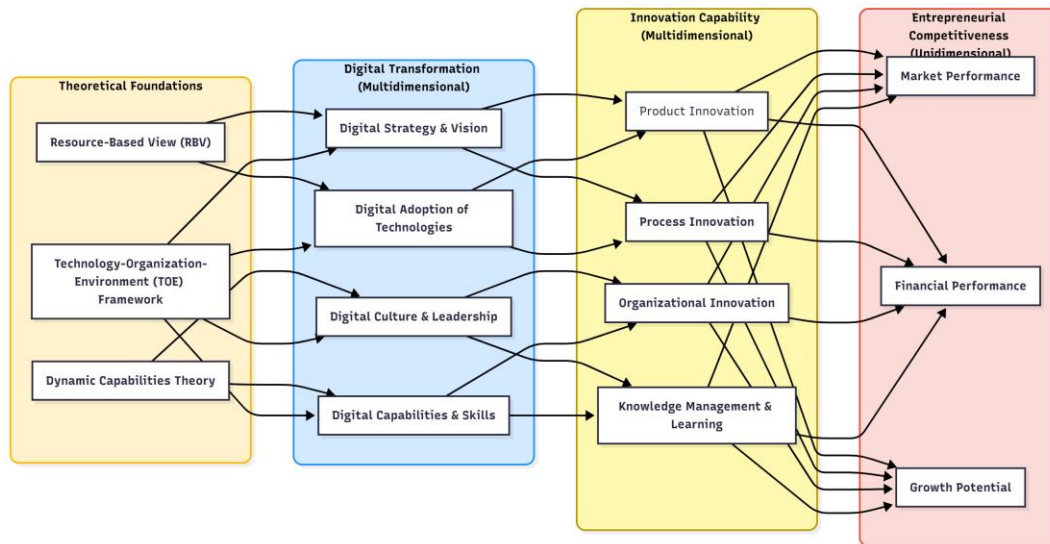


Figure 2.2: Theoretical Framework Linking Digital Transformation, Innovation Capability, and Entrepreneurial Competitiveness

Source: Researcher's Design (2025).

The framework states that digital transformation affects entrepreneur competitiveness considerably because of the formation of innovation capabilities. RBV focuses on using strategic resources, whereas Dynamic Capabilities Theory focuses on constant changes and innovations in processes and structures. The TOE framework demonstrates the idea of the organizational and environmental factors influencing the adoption of digital technologies. Combining these theories, the model proves that startups, which strategically apply the digital strategies, develop the enabling digital culture, and improve the technical competencies, can enhance their level of innovation, translating into the increase of the market share, financial results, and growth opportunities. This highlights the primary importance of innovation as the factor that bridges the gap between digital transformation and entrepreneurial success.

2.3 Empirical Reviews

The importance of having digital transformation in improving innovation capability has always been emphasized by empirical studies. Kane, Palmer, Phillips, Kiron, and Buckley (2015) also stressed that digital transformation is not carried out by technology but, instead, strategy, which evidences that companies having a clear vision of digitalisation have a higher chance of encouraging innovative processes. On the same note, Fitzgerald, Kruschwitz, Bonnet, and Welch (2014), opined that organizational adaptation requires adoption of digital technologies since systemically integrated systems of digital tools demonstrate greater levels of process and product innovation. Vial (2019) added to this argument and stated that the digital transformation not only alters the structures of the organizations, but

also brings the innovation to them by facilitating the flow of new opportunities and knowledge. The data on several industries reveals that the entrepreneurial competitiveness is driven by the digital transformation. Sebastian, Ross, Beath, Mockler, Moloney, and Fonstad (2017) examined the ways in which large and established companies can effectively manage digital transformation and discovered that digitally adoption strategy planning is a key to improved performance and growth opportunities in the market. Li, Su, Zhang, and Mao (2018) found that digital capabilities have the power to allow entrepreneurs to be more effective in innovation which translates into competitive advantage in a SME environment. Research on the business environment in Nigeria validates the same trends with Sundararajan, Mohammed, and Lawal (2022) showing that training and digital preparedness are important in improving performance of SMEs.

More empirical support is achieved through cross-industry case studies. Milošević, Plotnic, Tick, Stankovic, and Buzdugan (2024) emphasized that the implementation of Industry 4.0 enhances process innovation and operational efficiency in the manufacturing sector, whereas Yu, Zeng, and Zhang (2025) demonstrated that digitalization of the supply chain enhances collaborative innovation and market performance. Digital platforms enable faster knowledge sharing and product development in e-commerce and technology companies (Sebastian and Moloney, 2020; Sundararajan, Mohammed, and Senthil Kumar, 2023), and Rogers (2016) has also highlighted that a playbook of digital transformation should be well structured and organizational flexibility should be increased. In SMEs, innovation and long-term growth are encouraged by agile performance management frameworks that are connected to digital capabilities (Sundararajan, Mohammed, and Senthil Kumar, 2022; Matt, Hess, and Benlian, 2015). Putting these findings together demonstrates that multidimensional digital transformation that includes strategy, Technology adoption, culture and development of capability has a direct effect on innovation capability, which subsequently has an effect on entrepreneurial competitiveness (Li, Liu, and Zhang, 2020; Kane et

al., 2016, 2019). Although a substantial number of studies have been conducted on digital adoption and organizational performance, opportunities to understand the mechanisms by which innovation capability mediates such a relationship in various situations still exist (Bharadwaj, El Sawy, Pavlou, and Venkatraman, 2013; Verhoff et al., 2021).

2.4 Research Gap

Critical analysis of the available literature shows that there are a number of gaps. Although the digital transformation and innovation capability have been investigated separately in the past, the conceptual integration between multidimensional digital transformation and innovation capability as the mediator and entrepreneurial competitiveness as the outcome has not extensively taken place. The majority of the research is done on either the developed economies, or in a single industry setting, creating a knowledge gap about SMEs and emerging markets (Sundararajan Mohammed et al., 2022; Shanmugam Sundararajan et al., 2024). Also, a small amount of research operationalises digital transformation in its multidimensional entirety, which is strategy, technology adoption, digital culture, leadership, and skills development. The researches tend to single out the individual elements that limit the comprehension of the integrated impact of digital transformation on innovation capability (Kane et al., 2015; Vial, 2019). On the same note, although innovation capability is credited to be very important as a competitiveness factor, there is limited empirical data on how this knowledge mediates between digital transformation and entrepreneurial competitiveness (Sebastian et al., 2017; Li et al., 2018).

Moreover, most of the studies focus on technology adoption and process enhancements, and less market performance, growth potential, and financial performance as the dimensions of entrepreneurial competitiveness. This leaves a knowledge void regarding the ways in which strategies of digital transformation can be converted into practical business achievement, especially in SMEs and emerging economic conditions (Sundararajan, Mohammed, and Lawal, 2023; Yu et al., 2025). Therefore, it is legitimate to seek the conceptual

model, which would bring together the process of multidimensional digital transformation, innovation capability, and entrepreneurial competitiveness and provide a frame of reference in terms of scholarly inquiry and managerial practice of various economic settings (Fitzgerald et al., 2014; Rogers, 2016; Bharadwaj et al., 2013).

3.0 Research Methodology

The research design in this study is conceptual because it aims at synthesizing and integrating available literature to determine the relationship between digital transformation, innovation capability, and entrepreneurial competitiveness. The analysis is based on thematic analysis of the previous studies to determine the patterns of major patterns, relationships, and gaps, both on global, African, West African, and Nigerian levels (Verhoeff et al., 2021; Li, Su, Zhang, and Mao, 2018). It will be the review of peer-reviewed journals, conference papers, books, and reports which concentrate on digital technologies, innovation, and entrepreneurship. This will enable creating a holistic interpretation of how the digital transformation is the catalyst of the capability to innovate and the competitiveness among entrepreneurs (Kane et al., 2015; Mohammed, Shanmugam, Subramani, and Pal, 2024).

The paper also highlights the multidimensionality of the digital transformation with an exploration of the strategic, technological and organizational aspects of it and the interactions between the digital transformation and the process of innovation in enhancing the market and financial outcomes of entrepreneurial projects (Brynjolfsson & McAfee, 2014; Westerman, Bonnet, and McAfee, 2014). These dimensions are examined conceptually by the research and thus offer a structured way of conceptualizing complex relationships without necessarily having to collect primary data. The rationale of using a conceptual approach is that it allows considering different findings of varying contexts to provide a clear framework that can be used to elucidate the processes of digital transformation and innovation that lead to competitive goals. This practice will help in developing the theory and provide a practical guide

to entrepreneurs and managers on how to use digital initiatives to improve their performance.

4.0 Findings of the Study

4.1 Thematic Insights from Literature

1. According to literature, digital transformation has a positive impact on the competitiveness of entrepreneurs, simplifying the processes, increasing efficiency, and making decisions on the basis of data.
2. The ability to innovate proves to be an important source of competitiveness that cultivates the development of new products, flexibility, and the renewal of strategies in entrepreneurial ventures.
3. There is some evidence to support the notion that the impact of digital transformation has a direct impact on the innovation ability since digital tools and platforms provide a friendly environment to be creative, collaborate, and constantly improve.
4. When digital transformation and innovation capability are combined, this will lead to sustainable competitive advantage through enhanced value creation, customer experience, and market responsiveness.

4.2 Conceptual Relationships among Variables

1. There is a positive and significant relationship between digital transformation (IV1) and entrepreneurial competitiveness (DV) in terms of enhanced technological integration and market penetration.
2. The capacity of innovation (IV2) mediates the relationship between digital transformation and competitiveness by transforming the investments made on technology into creative products and business performance.
3. There is synergistic relationship between digital transformation and innovation capability and this increases the competitive advantage and growth of firms.
4. The theoretical model highlights the fact that entrepreneurial competitiveness is achieved to the maximum when businesses align successfully digital

technologies with their innovation strategies.

4.3 Patterns and Implications for Entrepreneurship

1. Entrepreneurs that embrace the use of digital technologies have an increased market flexibility and strength, particularly in volatile and unpredictable markets.
2. The innovativeness enacted allows business people to diversify what they are offering, which leads to sustainable competitiveness.
3. Digital preparedness and culture of innovation are companionate resources that define the degree of success in terms of firms utilizing technological opportunities.
4. The results emphasize that the digital transformation is not a technological change, but a strategic competence, which requires constant learning and leadership approach based on innovation.

5.0 Recommendations of the Study

5.1 Managerial Recommendations

1. To enhance the competitiveness and sustainability, entrepreneurs ought to invest strategically in the digital infrastructure and skills to enhance the processes of innovation.
2. The culture of innovation and perpetual improvement should be nurtured in firms as experimentation and creative solutions to problems are encouraged.
3. Digital transformation objectives should be connected to innovation strategies by managers so that there is harmony between the objectives of adopting technology and business objectives.
4. Monitoring the outcomes of digital initiatives and innovation on a regular basis will aid in quantification of competitiveness and dynamically implemented strategies.

5.2 Policy Suggestions for SMEs and Startups

1. The policymakers ought to develop incentives and support schemes to make digitization

and innovation among the SMEs and startups easier.

2. Digital infrastructure and training programs should be invested by governments and agencies to create national innovation capability.
3. Cooperation among government agencies, technological hubs, and the business world can speed up the digitalization of entrepreneurship networks.
4. There is a need to have policies that support the availability of affordable digital tools and cloud services, particularly to the startups in the developing economy.

5.3 Recommendations for Future Conceptual or Empirical Studies

1. The suggested relationships among digital transformation, innovation capability, and competitiveness need to be proved empirically in the future based on cross-sectoral data.
2. Research can be done on contextual moderators including digital literacy, organization culture and leadership style as it relates to these relationships.
3. Comparative research between developed and emerging economies can give more information on the impact of infrastructure and institutional aspects.
4. There is a need to conduct longitudinal research on the effects of sustained digital transformation and innovation initiatives on entrepreneurial competitiveness in the long-term.

6.0 Conclusion

6.1 Summary of Key Insights

In this research, the complex relationships between digital transformation, ability to innovate, and entrepreneurial competitiveness have been discussed. The review concept shows that digital transformation, which consists of digital strategy, digital adoption, digital culture and digital capabilities, has a central impact in determining the capability of innovation in the context of an entrepreneurial venture. Innovation capability, in its turn, mediates the connection between digital initiatives and the entrepreneurial competitiveness, increasing the market performance, financial results,

and growth opportunities (Li, Khong-Khai, Leelapattana, and Tsai, 2024; Yu, Zeng, and Zhang, 2025). The paper also points out the fact that successful incorporation of digital transformation and innovation capability is imperative in attaining sustainable competitive advantage in global, African, and Nigerian entrepreneurial environments.

6.2 Theoretical and Managerial Implications

Theoretically, the research supports the applicability of the Resource-Based View (RBV), Dynamic Capabilities Theory, and the Technology-Organization-Environment (TOE) concept in explaining the relationship between digital resources and organizational capabilities and entrepreneurial competitiveness (Bharadwaj, El Sawy, Pavlou, and Venkatraman, 2013; Kane et al., 2015; Vial, 2019). On the managerial level, the respective business leaders (entrepreneurs and SMEs) are advised to ensure that digital strategies are parallel to innovation efforts, invest in digital skills and technology uptaking, and promote the culture of ongoing innovation. Digital infrastructure, training and funding systems should also be encouraged by the policymakers and the business support institutions to enable enterprises to benefit out of digital transformation and ability to be innovative.

6.3 Final Reflections on Digital Transformation, Innovation Capability, and Entrepreneurial Competitiveness

The digital transformation and innovation capability is no longer a choice but a necessary factor in the competitiveness of entrepreneurship in the current dynamic business environment. Companies that successfully incorporate digital initiatives into the process of innovations are in a better place to respond to changes in the market, outshining their rivals, and attaining sustainable growth. This study presents theoretical guidance on how to capitalize on the forces of digital transformation and innovation capability as key success factors in the entrepreneurship, offering both scholars and practitioners a roadmap on how to fully utilize their potential, and the continued need to conduct further research and implementations to do so.

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