

STRATEGIC ORIENTATIONS, DIGITAL OPENNESS, AND SME PERFORMANCE IN NIGERIA: A CONCEPTUAL REVIEW OF THE MODERATED MEDIATION EFFECT OF DIGITAL LITERACY

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ABSTRACT:

Small- and medium-sized enterprises (SMEs) play a crucial role in driving economic growth in emerging markets. However, Nigeria's SMEs performance is hindered by limited market access, inadequate digital skills, and low digital openness. This conceptual review critically explores how strategic orientations, specifically Market Orientation (MO) and Entrepreneurial Orientation (EO), affect SME performance, with Digital Openness (DO) serving as a mediating mechanism and Digital Literacy (DL) acting as a moderating factor. Drawing on the Resource-Based View (RBV), Digital Transformation Theory (DTT), and Dynamic Capabilities View (DCV), this study synthesises the recent literature (2020–2025). It proposes a framework to address theoretical and practical gaps in the Nigerian context. The analysis highlights that DO and DL are crucial for translating strategic orientations into improved SME performance, particularly in resource-constrained environments. The article concludes with recommendations for practitioners and policymakers and outlines directions for future empirical research.

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1. Introduction

Small- and Medium-Sized Enterprises (SMEs) are vital engines of economic growth, significantly contributing to employment, rural development, youth empowerment, and national economic progress in both developed and developing nations. These enterprises play a crucial role in fostering innovation, advancing information and communication technology (ICT), and promoting balanced regional development (OECD, 2024). SMEs are recognised as key platforms for cultivating technical, technological, and entrepreneurial skills across diverse population segments, thereby contributing to job creation, wealth generation, and income redistribution (SMEDAN & NBS, 2021). Given their importance, fostering SME growth is a strategic priority for governments aiming to stimulate entrepreneurship, reduce unemployment, and drive industrialisation (Gurin et al., 2024; Shettima, 2019). Often referred to as the “cradle of entrepreneurship” because of their efficiency, adaptability, and innovation, SMEs serve as crucial indicators of economic health (Umar et al., 2024). Numerous studies have highlighted the significant potential of SMEs to drive economic expansion, particularly in emerging economies (Bello et al., 2018; Ahmad, 2020).

SMEs are vital for both economic development and innovation in emerging economies. According to the World Bank (2023), small and medium-sized enterprises (SMEs) in these economies contribute over 60% to employment and 40% to the gross domestic product (GDP). Despite encountering challenges related to economies of scale, SMEs often benefit from their smaller size, which allows them to be more agile, responsive to market fluctuations, and adaptable to economic shocks (OECD, 2024). Additionally, SMEs fulfil a crucial social function by delivering goods and services to communities that are frequently underserved by larger corporations (Yahaya & Nadarajah, 2023). The extent of SMEs' contributions to GDP and employment varies across nations, with developed economies such as the United Kingdom, Taiwan, South Korea, and Japan experiencing significant inputs from their SME sectors (Rowinski, 2022; Asian Productivity Organization, 2023). Similarly, SMEs in emerging economies, including South Africa, Ghana, and Kenya, have made notable contributions to both employment and GDP (Alkhajeh & Abdelhakeem, 2018; Egbuta et al., 2022).

However, despite the critical role of SMEs in Nigeria, the sector faces numerous obstacles that hinder its potential—according to Price Waterhouse Coopers (PWC, 2022), Micro, Small, and Medium Enterprises (MSMEs) accounted for approximately 46% of Nigeria's GDP in 2010, an increase of 49.78% by 2017. However, by 2020, this contribution had decreased to 46.28%,

reflecting a downward trend relative to other African countries (SMEDAN & NBS, 2021). These challenges, including restricted market access, inadequate digital openness, and insufficient digital capabilities, hinder the ability of SMEs to prosper and limit their contributions to Nigeria's economy (Ajiboye et al., 2023; Rogo et al., 2017). Therefore, it is imperative to investigate factors that can improve the performance of SMEs in Nigeria and enhance their economic impact.

A growing body of literature has emphasised several factors influencing the performance of SMEs, including human resource management, corporate social responsibility, and strategic orientations, such as market orientation (MO) and entrepreneurial orientation (EO). These orientations, particularly MO and EO, are seen as critical drivers of SME success, with research indicating that market-oriented and entrepreneurial firms tend to outperform their competitors (Narver & Slater, 1990; Miller, 1983). Additionally, the rise of digital technologies has brought digital literacy and openness to the forefront as essential enablers of SME performance. Digital literacy enhances SMEs' ability to leverage technological tools, streamline operations, and remain competitive (Jin et al., 2020; Umetiti et al., 2025). Similarly, digital openness, which refers to the extent to which SMEs embrace digital tools and engage in digital collaboration, has been shown to foster innovation and improve market access (Dantsoho et al., 2020; Nambisan & Baron, 2021). However, despite their growing significance, the roles of digital openness and literacy in enhancing the relationship between MO, EO, and SME performance remain underexplored in the Nigerian context.

This study aims to fill this gap by investigating the combined effects of MO, EO, digital openness, and digital literacy on the performance of SMEs in North-western Nigeria. It examines how digital openness mediates the relationship between strategic orientations (MO and EO) and SME performance while exploring the moderating effect of digital literacy. By integrating the Resource-Based View (RBV), Digital Transformation Theory (DTT), and Dynamic Capability View (DCV), this study provides a framework for understanding how these factors collectively influence SME performance in developing economies. The findings are expected to offer new theoretical and empirical insights into how SMEs in Nigeria can leverage digital transformation to enhance their performance and competitiveness.

Moreover, this study contributes to the existing literature on SME performance by providing practical guidance for SME owners and managers in Nigeria. Understanding how market orientation, entrepreneurial orientation, digital openness, and digital literacy interact will help

SMEs to identify the key factors that drive their success. Policymakers and SME stakeholders can use these findings to develop strategies to promote sustainable growth, competitiveness, and resilience in the Nigerian SME sector. The significance of this study lies not only in its theoretical contribution but also in its practical implications for fostering a robust and dynamic SME sector in Nigeria.

By focusing on SMEs in Katsina State, north-western Nigeria, this study addresses the unique challenges faced by SMEs in this area, such as limited access to resources, digital technology gaps, and low digital literacy (Badamasi et al., 2023; Adudu et al., 2021). Given Katsina's prominent role in Nigeria's SME landscape, this region serves as an ideal case for understanding the SME dynamics in north-western Nigeria. The findings offer valuable insights into the factors influencing SME performance in the region and provide policy recommendations that can be applied to similar contexts across Nigeria.

2.0 Literature Review

2. 1 Concept of SME Performance

SME performance is a multifaceted construct encompassing financial and non-financial indicators such as profitability, turnover, productivity, and operational efficiency. Financial performance is traditionally measured by profitability, return on investment (ROI), and market share. Non-financial performance indicators, on the other hand, include customer satisfaction, employee engagement, and innovation. Neely et al. (2001) and Lusthaus et al. (2002) emphasise the need for both internal and external factors to assess SME performance, highlighting the dimensions of effectiveness, efficiency, relevance, and financial viability.

Although the concept of SME performance has been widely researched, it remains ambiguously defined, as noted by Richard et al. (2009) and Maziriri et al. (2018). Performance measures can be objective (e.g., financial data) or subjective (e.g., managerial perceptions), and each approach has its advantages and limitations (Kim et al., 2006). The choice of performance measurement depends on the research context, with subjective measures often used in studies in which objective financial data are difficult to access, as seen in studies by Rauch et al. (2009) and Gorondutse et al. (2021).

2.2 Strategic Orientations and SME Performance

2.2.1 Entrepreneurial Orientation and SME Performance

Entrepreneurial orientation (EO), defined as innovativeness, proactiveness, and risk-taking, is crucial for SMEs striving to enhance their competitiveness and performance. EO promotes

strategic behaviour that allows firms to adapt to market changes, capitalise on emerging opportunities, and maintain a competitive advantage. Covin and Slevin (1991) and Lumpkin and Dess (1996) demonstrate EO's positive influence on SME performance. For instance, proactive firms are more likely to introduce new products, exploit untapped markets, and maintain agility in dynamic environments (Hughes & Morgan, 2007).

However, empirical studies also highlight variations in the impact of EO on performance depending on the market context. Studies by Rauch et al. (2009) and Adebiyi et al. (2019) suggest that the effect of EO on performance may be less pronounced in resource-constrained or highly uncertain environments, such as those found in developing countries like Nigeria. This emphasises the need to explore further the conditions under which EO delivers performance benefits, particularly in emerging markets.

2.2.2 Market Orientation and SME Performance

Market orientation (MO) focuses on a firm's ability to understand and respond to customer needs, monitor competitors, and coordinate internal activities to create value (Narver & Slater, 1990). Studies consistently show that a strong MO enhances SME performance by improving customer satisfaction, increasing innovation, and enabling firms to respond proactively to competitive pressures (Kohli & Jaworski, 1990; Agyapong & Domeher, 2016). MO fosters customer loyalty and helps firms to differentiate their products or services in competitive markets.

However, contextual factors such as market dynamics, resource availability, and infrastructure can moderate the relationship between MO and SME performance. In volatile or underdeveloped markets, the benefits of MO may diminish if SMEs struggle with resource constraints or access to critical market intelligence (Osakwe et al., 2016; Shehu & Mahmood, 2014). As such, understanding the contextual moderators of MO's impact on MO on SME performance remains an important area for future research.

2.2.3 Digital Openness and SME Performance

Digital openness, defined as a firm's willingness to adopt open digital practices, such as data sharing and digital collaboration, is increasingly recognised as a key driver of SME performance in the digital age (Nambisan et al., 2019). Digital openness enhances innovation, market access, and operational efficiency by facilitating collaboration and resource-sharing across digital platforms. Empirical studies from developed economies suggest that firms that embrace digital

openness experience superior market responsiveness and innovation outcomes (Chesbrough, 2003; Kane et al., 2015).

However, in developing countries, the impact of digital openness on SME performance is less explored, particularly in contexts where digital infrastructure and literacy may be limited. Boateng et al. (2023) indicate that SMEs in resource-constrained environments may benefit from digital openness, particularly in overcoming geographical barriers and enhancing customer engagement through digital platforms. However, challenges such as inadequate digital skills, infrastructure limitations, and cybersecurity concerns remain as barriers to full digital integration (Obokoh et al., 2024; Patrick, 2015).

2.2.4 Digital Literacy and SME Performance

Digital literacy, which encompasses the ability to use digital tools and technologies effectively, is a critical enabler of SME performance. Digital literacy enhances the capacity of SMEs to innovate, integrate digital tools into their operations, and adapt to technological advancements. Studies by Fauzi et al. (2020) and Elvira and Yusuf (2023) demonstrate that digital literacy enhances SME performance by improving decision-making, operational efficiency, and market competitiveness. Digital literacy is vital in navigating the digital transformation landscape. By fostering a culture of digital proficiency, SMEs can leverage digital platforms for marketing, supply chain management, customer relationship management, driving growth, and enhancing competitiveness (Ranatunga, 2020; Rakib, 2024). However, the impact of digital literacy is contingent on SME's ability to integrate digital technologies effectively, as seen in studies by Ojobo et al. (2023) and Elvira and Yusuf (2023), which highlight the positive correlation between digital skills and business performance.

2.3 Gaps in the Literature

Despite a substantial body of research on EO, MO, digital openness, and digital literacy, significant gaps remain, particularly in the context of developing economies. Much of the existing literature focuses on developed markets, where firms face different challenges and opportunities than SMEs in developing countries do. Notably, the role of digital openness as a mediating factor between strategic orientation and SME performance is underexplored in resource-constrained contexts (Abiodun et al., 2024). Additionally, the relationship between digital literacy and performance remains largely unexplored, particularly in terms of its moderating role in the digital transformation process.

2.4 Theoretical Framework

This study is grounded in three complementary theoretical perspectives that collectively provide a robust foundation for understanding how strategic orientation, digital openness, and digital literacy collectively shape SME performance, particularly within the context of Nigeria's evolving digital economy.

2.4.1. Resource-Based View (RBV)

The Resource-Based View (RBV) posits that firms achieve and sustain competitive advantage by leveraging unique, valuable, rare, and inimitable resources (Barney, 1991; Wernerfelt, 1984). In the context of SMEs, such resources extend beyond physical assets to encompass intangible capabilities, including market orientation and entrepreneurial orientation. Market orientation enables firms to sense and respond to customer needs, while entrepreneurial orientation drives innovation, proactiveness, and risk-taking, qualities essential for navigating dynamic markets (Narver & Slater, 1990; Miller, 1983). Thus, the RBV provides a lens through which to examine how these strategic orientations become sources of differentiation and performance in SMEs.

Recent extensions of RBV in digital contexts suggest that digital resources, such as digital openness and literacy, are increasingly critical for competitive positioning (Wade & Hulland, 2004; Barney, 2018). In resource-constrained environments, such as Nigeria, where traditional resources may be limited, the effective mobilisation of digital capabilities can compensate for other deficiencies and unlock new pathways to growth.

2.4.2. Digital Transformation Theory (DTT)

Digital Transformation Theory (DTT) elucidates how digital technologies fundamentally reshape business processes, organizational structures, and value-creation mechanisms (Verhoef et al., 2021; Vial, 2019). The concept of digital openness at the heart of DTT is a firm's willingness and ability to adopt digital platforms, share data, collaborate online, and integrate digital solutions into its core business functions (Nambisan et al., 2019).

Digital openness facilitates access to new markets, enhances customer engagement, and enables rapid innovation through digital ecosystems (Chesbrough, 2003; Kane et al., 2015). DTT emphasises that digital transformation is not merely about technology adoption but about fostering a digital mindset that permeates the entire organisation. In the Nigerian context, where digital infrastructure is uneven and digital adoption is still in its early stages, digital openness serves as a critical mediator between strategic orientation and performance outcomes.

2.4.3. Dynamic Capabilities View (DCV)

The Dynamic Capabilities View (DCV) builds on the RBV by focusing on the firm's ability to sense, seize, and transform resources in response to changing environments (Teece, 2007, 1997). In the digital age, digital literacy—defined as the ability to effectively use, understand, and manage digital tools and information—emerges as a foundational dynamic capability (Fauzi et al., 2020; Jasin et al., 2024).

The DCV emphasises that SMEs must continually adjust their resource allocation to remain competitive. Digital literacy empowers firms to optimise digital resources, integrate new technologies, and respond to market shifts with agility. In resource-scarce settings, digital literacy acts as a moderator, amplifying the benefits of digital openness and strategic orientation by ensuring that digital opportunities are effectively translated into improved performance.

2.4.4. Integration of Theoretical Perspectives

By integrating RBV, DTT, and DCV, this study offers a solid theoretical framework for analysing SME performance in Nigeria's digital economy. The RBV establishes the fundamental importance of strategic orientation as a unique resource. DTT introduced digital openness as a transformative mechanism that mediates the relationship between strategy and performance. In turn, DCV positions digital literacy as a dynamic capability that moderates the effectiveness of digital openness, ensuring that digital resources are leveraged to their full potential.

This integrated framework addresses a critical gap in the literature by highlighting the interplay among strategy, digital openness, and digital literacy. This study also provides practical insights for SME managers and policymakers seeking to foster digital transformation in resource-constrained environments.

2.5 Digital Openness as a Mediating Mechanism

Digital openness (DO) or digital capability denotes a firm's readiness to adopt digital platforms for collaboration, data sharing, and stakeholder engagement (Dantsoho et al., 2020; Nambisan et al., 2019). It enhances connectivity, enabling SMEs to innovate, access resources, and respond to market shifts (Bharadwaj et al., 2013; Khin & Ho, 2019). In emerging economies, DO reduces barriers to entry and fosters partnerships, amplifying SME competitiveness (Kraus et al., 2019; Autio et al., 2021).

DO's mediating role in the MO/EO-performance relationship remains underexplored. DTT posits that digital tools transform strategic processes into performance outcomes (Nambisan et al., 2019).

For MO, DO facilitates customer engagement and competitor analysis via digital platforms, whereas for EO, it supports innovation and proactive strategies through real-time data and collaboration (Gawer & Cusumano, 2014). In Nigeria, where SMEs face infrastructural and technological gaps (Enesi & Ibrahim, 2021), DO facilitates the translation of strategic orientations into performance by enabling SMEs to access new markets, collaborate with partners, and innovate rapidly (Chesbrough, 2003; Kane et al., 2015). In Nigeria, DO helps SMEs overcome geographic and resource barriers; however, its mediating effect is most potent when digital infrastructure and skills are present (Boateng et al., 2023).

2.6 Digital Literacy as a Moderating Factor

Digital literacy (DL) encompasses the skills to use digital tools effectively, thus enhancing SME operations and competitiveness (Martin & Grudziecki, 2006; Fauzi et al., 2020). It enables innovation, resource access, and strategic integration in technology-driven markets (Elvira & Yusuf, 2023; Olasupo & Andow, 2024). DCV highlights DL as a dynamic capability that amplifies the utilisation of digital resources (Teece, 2007).

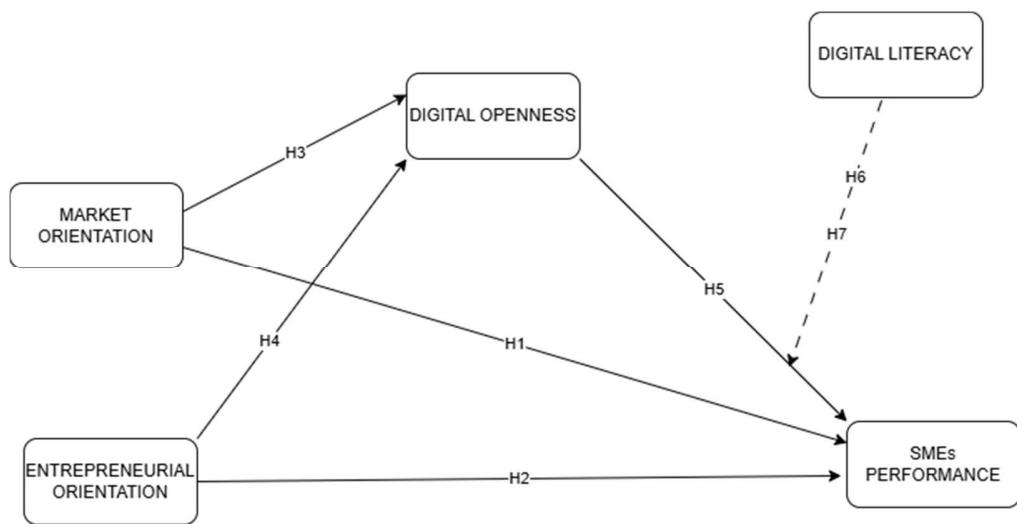
DL's moderating in the DO-mediated MO/EO performance link is a novel proposition. A high DL enhances SMEs' ability to leverage DO, strengthening its mediation effect (Jasin et al., 2024; Raharjo, 2024). For instance, digitally literate managers can optimise MO through targeted digital marketing or bolster EO through innovative digital solutions. In Nigeria, where DL is often limited (Adudu et al., 2021), its role in amplifying digital strategies has yet to be studied.

2.7 Conceptual Framework

2.7.1 Proposed Model

The conceptual framework (Figure 1) posits that MO and EO directly affect SME performance, with DO mediating these relationships and DL moderating the mediation effect. This moderated mediation model integrates strategic and digital constructs to explain the variance in SME performance.

Figure 1: Conceptual Framework



Source: Authors conceptualization (2025)

3. Methodological Approach

This conceptual review employs a systematic content analysis of peer-reviewed literature published between 2020 and 2025, focusing on SME performance, strategic orientation, and digital transformation in Nigeria and comparable emerging markets. Articles were identified through database searches using keywords such as “SME performance,” “digital openness,” “market orientation,” “entrepreneurial orientation,” and “digital literacy.” Thematic synthesis was employed to extract and integrate key insights, with particular attention paid to studies that addressed the mediating and moderating roles of digital capabilities.

4. Discussion and Implications

4.1 Theoretical Contributions

This study significantly extends the Resource-Based View (RBV), the Dynamic Capabilities View (DCV), and Digital Transformation Theory (DTT) by integrating digital factors into strategic orientation research, thereby addressing key gaps in the literature on SME performance, particularly in developing economies. Incorporating digital openness (DO) and digital literacy (DL) into the frameworks of RBV, DCV, and DTT in this research demonstrates how these elements enhance the effects of market orientation (MO) and entrepreneurial orientation (EO) on SME success, positioning digital resources, and literacy as critical enablers of competitive advantage and adaptability in dynamic markets. The proposed moderated mediation model offers a new perspective, revealing that DL amplifies the mediating role of DO in the relationships between MO, EO, and SME performance. Unlike prior studies rooted in advanced economies, this

research highlights the adaptability of these theories to settings with uneven technological adoption, providing a comprehensive framework that not only bridges digital and traditional strategies but also highlights the transformative potential of digitalization for SMEs striving to thrive in globalized markets

4.2 Practical Implications

For SME practitioners in Nigeria, the findings highlight the critical importance of embracing digital adoption and cultivating digital literacy as key levers for maximising the potential of strategic orientations, such as market orientation (MO) and entrepreneurial orientation (EO). As digital technologies continue to evolve, SME owners and managers are likely to find that integrating digital openness to leverage tools such as e-commerce platforms, data analytics, and automation into their operations could significantly enhance their ability to understand customer needs, innovate, and compete in increasingly dynamic markets. Similarly, fostering digital literacy among SME leaders is essential, as it equips them to navigate future technological disruptions, align digital strategies with business goals, and cultivate a culture of adaptability and innovation. For policymakers, these insights will offer a forward-looking blueprint for designing targeted interventions, such as subsidised digital training programs, accessible technology infrastructure, and incentives for digital transformation, aimed at bolstering SME competitiveness and amplifying their economic contributions in Nigeria. By addressing barriers such as limited digital access and skill gaps, such initiatives could empower SMEs to harness digitalisation as a catalyst for growth, job creation, and resilience, ultimately strengthening Nigeria's position in the global economy.

4.3 Limitations and Future Directions

As a conceptual study, the proposed framework has yet to undergo empirical validation, which marks a key limitation that future research will need to address to substantiate its practical relevance and theoretical rigour. While this study outlines how digital openness and literacy might enhance strategic orientations such as market orientation (MO) and entrepreneurial orientation (EO) in Nigerian SMEs, its propositions remain untested without empirical evidence. To bridge this gap, future studies should empirically evaluate the moderated mediation model across Nigeria's diverse regions, such as the technologically advanced southwest versus less-digitised northern areas, where disparities in digital access and skills could shape outcomes differently. Extending the research to encompass various sectors, ranging from agriculture and manufacturing

to technology-driven services, will further test the framework's versatility and reveal potential industry-specific dynamics. Where possible, researchers should integrate objective performance indicators such as profit margins, customer acquisition rates, or digital tool adoption levels to provide a more concrete basis for analysis beyond subjective measures. Moreover, longitudinal approaches could illuminate how increasing digital literacy among SME practitioners influences performance over time, particularly as Nigeria's digital landscape evolves, offering a richer understanding of digitalisation's long-term role in fostering SME growth and competitiveness.

5. Conclusion

This article proposes a pioneering conceptual framework that integrates market orientation (MO), entrepreneurial orientation (EO), digital orientation (DO), and digital literacy (DL) to explore their collective influence on SME performance in North-western Nigeria, a region poised for economic transformation. Weaving these constructs together, this study addresses critical theoretical gaps in the literature, particularly within the domains of the Resource-Based View (RBV), Dynamic Capabilities View (DCV), and Digital Transformation Theory (DTT), offering fresh insights into the interplay of traditional and digital strategies in resource-constrained emerging economies. By highlighting the transformative potential of digital strategies, this framework positions digitalisation as a catalyst for levelling the playing field for SMEs in north-western Nigeria, where challenges such as limited infrastructure and skill gaps persist. However, as a conceptual endeavour, its whole impact hinges on future empirical testing, which is essential to validate its theoretical contributions and practical utility, further enriching the SME literature and informing evidence-based strategies for practitioners and policymakers in emerging markets.

References

Abiodun, K., Surin, E. F., & Arshad, A. S. (2024). Market, entrepreneurial orientations, and information system use: A systematic literature review. *Journal of Emerging Economies and Islamic Research*, 12(2), 1382-1382.

Adebiyi, S. O., Amole, B. B., Arikewuyo, K. A., & Oyenuga, O. G. (2019). Multi-criteria decision analysis of entrepreneurial orientation and business performance in Nigeria. *Economics and Business*, 33(1), 140-151.

Adudu, C., Terlumun, I. G., & Kabiru, A. O. (2021). Business networking and performance of small and medium scale enterprises in Benue state, Nigeria. *International Journal of Engineering and Management Research*, 11(3), 126-133.

Agyapong, A., Ellis, F., & Domeher, D. (2016). Competitive strategy and performance of family businesses: Moderating effect of managerial and innovative capabilities. *Journal of Small Business & Entrepreneurship*, 28(1), 1-29. <https://doi.org/10.1080/08276331.2016.1217727>

Ahmad, N. N. (2020). The effectiveness of additional PRIHATIN SME economic stimulus package (PRIHATIN SME +) in Malaysia post-COVID-19 outbreak: A conceptual paper. *Global Business*, 12(4), 754-764.

Ajiboye, D. I., Mohammed, M., & Adebayo, J. A. (2023). Effect of poor power supply on SMEs performance in Nigeria (A case study of some selected SMEs in Yobe State). *Fane-Fane International Multi-Disciplinary Journal*, 7(2), 269-281.

Alkhajeh, M. H. A., & Abdelhakeem Khalid, A. (2018). Management accounting practices (MAPs) impact on small and medium enterprise business performance within the Gauteng Province of South Africa. *Journal of Accounting and Auditing: Research & Practice*, 20, 1-8.

Asian Productivity Organization. (2023). SME productivity: Connecting to the global value chain. *Productivity Insights*, 2-12.

Autio, E., Mudambi, R., & Yoo, Y. (2021). Digitalization and globalization in a turbulent world: Centrifugal and centripetal forces. *Global Strategy Journal*, 11(1), 3-16.

Badamasi, M., Abdulrahman, A. M., & Kabiru, T. (2023). Entrepreneurial orientation and performance of SMEs: The moderating effect of entrepreneurial ecosystem. *Nigerian Journal of Management Sciences*, 24(Special Issue), 57-70.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.

Bello, A., Jibir, A., & Ahmed, I. (2018). Impact of small and medium scale enterprises on economic growth: Evidence from Nigeria. *Global Journal of Economics and Business*, 4(2), 236-244.

Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. V. (2013). Digital business strategy: Toward a next generation of insights. *MIS Quarterly*, 37(2), 471-482.

Boateng, B. O., Asare, C., Sekyere, K. N., Akude, D. N., & Walden, B. H. (2023). Understanding blockchain adoption in emerging markets: Integrating the technology acceptance model and innovation diffusion theory. *International Journal of Entrepreneurship*, 27(5), 1-23.

Chesbrough, H. (2003). *Open innovation: The new imperative for creating and profiting from technology*. Harvard Business Press.

Covin, J. G., & Slevin, D. P. (1991). A conceptual model of entrepreneurship as firm behavior. *Journal of Entrepreneurship*, 6(2), 7-25.

Dantsoho, M. A., Adamu, A. A., Yazeed, M., Abdullahi, N., Ringim, K. J., & Umar, S. (2020, October). Digital orientation scale: Development and validation. In *2020 International Conference on Data Analytics for Business and Industry: Way Towards a Sustainable Economy (ICDABI)* (pp. 1-6). IEEE.

Egbuta, O. U., Omosigho, A. A., Akinlabi, H. B., & Ajike, E. O. (2022). Lean human resource initiatives and employee performance of selected small and medium scale enterprises in Nigeria. *Journal of Strategic Management*, 6(3), 88-106.

Elvira, K. I., & Yusuf, D. (2023). Digital literacy and firm performance of small and medium enterprises in Nairobi County, Kenya. *World Journal of Innovative Research (WJIR)*, 14(4), 10-17.

Enesi, O. E., & Ibrahim, U. A. (2021). Effect of COVID-19 pandemic on the performance of small and medium business enterprises in Nigeria.

Fauzi, F., Antoni, D., & Suwarni, E. (2020). Women entrepreneurship in the developing country: The effects of financial and digital literacy on SMEs' growth. *Journal of Governance and Regulation*, 9(4), 106-118.

Gawer, A., & Cusumano, M. A. (2014). Industry platforms and ecosystem innovation. *Journal of Product Innovation Management*, 31(3), 417-433.

Gorondutse, A. H., Arshad, D., & Alshuaibi, A. S. (2021). Driving sustainability in SMEs' performance: The effect of strategic flexibility. *Journal of Strategy and Management*, 14(1), 64-81.

Gurin, I. M., Shettima, M. B., & Ardo, M. A. (2024). Entrepreneurial competencies and SME's performance in Yobe State Nigeria. *Indonesian Journal of Advanced Research (IJAR)*, 3(7), 939-950.

Hughes, M., & Morgan, R. (2007). Deconstructing the relationship between entrepreneurial orientation and business performance at the embryonic stage of firm growth. *Industrial Marketing Management*, 36(5), 651-661. <https://doi.org/10.1016/j.indmarman.2006.04.003>

Jasin, M., Anisah, H., Fatimah, C., Azra, F., Suzanawaty, L., & Junaedi, I. (2024). The role of digital literacy and knowledge management on process innovation in SMEs. *International Journal of Data and Network Science*, 8(1), 337-344.

Jin, K. Y., Reichert, F., Cagasan Jr, L. P., de La Torre, J., & Law, N. (2020). Measuring digital literacy across three age cohorts: Exploring test dimensionality and performance differences. *Computers & Education*, 157, 103968.

Kane, G., Palmer, D., Phillips, A., & Kiron, D. (2015). Is your business ready for a digital future? *MIT Sloan Management Review*, 56(4), 37-44.

Khin, S., & Ho, T. C. (2019). Digital technology, digital capability and organizational performance: A mediating role of digital innovation. *International Journal of Innovation Science*, 11(2), 177-195.

Kim, S., Hwang, H., Jung, T., & Suh, E. (2006). Customer segmentation and strategy development based on customer lifetime value: A case study.

Kohli, A. K., & Jaworski, B. J. (1990). Market orientation: The construct, research propositions, and managerial implications. *Journal of Marketing*, 54, 1-18. <https://doi.org/10.2307/1251866>

Kraus, S., Roig-Tierno, N., & Bouncken, R. B. (2019). Digital innovation and venturing: An introduction into the digitalization of entrepreneurship. *Review of Managerial Science*, 13(3), 519-528.

Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135–172.

Lusthaus, C., Adrien, M., Anderson, G., Carden, F., Montalván, G., & Inter-American Development Bank. (2002). *Organizational assessment: A framework for improving performance*. [http://lst-iiep.iiep-unesco.org/cgi-bin/wwwi32.exe/\[in=epidoc1.in\]/?t2000=018720/\(100\)](http://lst-iiep.iiep-unesco.org/cgi-bin/wwwi32.exe/[in=epidoc1.in]/?t2000=018720/(100))

Martin, A., & Grudziecki, J. (2006). DigEuLit: Concepts and tools for digital literacy development. *Innovation in Teaching and Learning in Information and Computer Sciences*, 5(4), 249-267.

Maziriri, E. T., Mapuranga, M., & Madinga, N. W. (2018). Self-service banking and financial literacy as prognosticators of business performance among rural small and medium-sized enterprises in Zimbabwe. *The Southern African Journal of Entrepreneurship and Small Business Management*, 10(1), 1-10. <https://doi.org/10.4102/sajesbm.v10i1.180>

Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, 29(7), 770-791.

Nambisan, S., & Baron, R. A. (2021). On the costs of digital entrepreneurship: Role conflict, stress, and venture performance in digital platform-based ecosystems. *Journal of Business Research*, 125, 520-532.

Nambisan, S., Wright, M., & Feldman, M. (2019). The digital transformation of innovation and entrepreneurship: Progress, challenges, and key themes. *Research Policy*, 48(8), 103773. <https://doi.org/10.1016/j.respol.2019.03.018>

Narver, J. C., & Slater, S. F. (1990). The effect of a market orientation on business profitability. *The Journal of Marketing*, 20-35.

Neely, A., Adams, C., & Crowe, P. (2001). The performance prism in practice. *Measuring Business Excellence*, 5(2), 6-13.

Obokoh, L., Arogundade, S., Sthembiso, N., & Akinola, S. (2024). The effect of digital transformation on the productivity of business enterprises in South Africa. *Journal of Infrastructure, Policy and Development*, 8(5), 3114.

OECD. (2024). *OECD Economic Outlook, Volume 2024 Issue 1*. OECD Publishing, Paris.

Ojobo, C. A., Orga, C. C., & Okechukwu, E. U. (2023). Impact of digital literacy on the performance of small-scale business in Enugu State. *Advance Journal of Business and Entrepreneurship Development*, 7(1).

Olasupo, A. F., & Andow, H. A. (2024). Moderating effects of digital orientation on the relationship between training and development and small and medium enterprises performance in Kaduna metropolis. *International Journal of Intellectual Discourse*, 7(1), 89-103.

Osakwe, C. N., Chovancová, M., & Agu, M. (2016). Can micro-enterprises leverage on the adoption of corporate websites to bolster their brand visibility? Examining salient adoption issues in a developing country context. *Information Development*, 32(4), 904-919. <https://doi.org/10.1177/0266382115580800>

Patrick, K. W. (2015). The impact of information and communication technology adoption and diffusion on technology entrepreneurship in developing countries: The case of Kenya. *Information Technology for Development*, 21(2), 253-280. <https://doi.org/10.1080/02681102.2015.1013680>

PricewaterhouseCoopers (PwC). (2024). MSME survey report 2024. Retrieved from <https://www.pwc.com/ng/en/assets/pdf/pwcmssme-survey-report-2024.pdf>

Raharjo, K., Afrianti, T. W., & Prakasa, Y. (2024). Digital literacy and business transformation: Social-cognitive learning perspectives in small business enterprises. *Cogent Business & Management*, 11(1), 2376282.

Rakib, M. (2024). Impact of digital literacy, business innovation, competitive advantage on the existence of SMEs: A quantitative study in Makassar City, Indonesia. *Quality-Access to Success*, 25(198), 277-283.

Ranatunga, R. V. S. P. K., Priyanath, H. M. S., & Megama, R. G. N. (2020). Digital literacy, business uncertainty & economic performance: An empirical study of small businesses in Sri Lanka. *International Journal of Academic Research in Business and Social Sciences*, 10(5), 50-76.

Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice*, 33(3), 761–787.

Richard, P. J., Devinney, T. M., Yip, G. S., & Johnson, G. (2009). Measuring organizational performance: Towards methodological best practice. *Journal of Management*, 35, 718-804. <https://doi.org/10.1177/0149206308330560>

Rogo, H. B., Shariff, N. M., & Hafeez, M. H. (2017). Empirical investigation on the relationship between strategic orientations and SMEs performance in Nigeria. *European Journal of Business and Management*, 9(20), 62-72.

Rowinski, M. (2022). How small businesses drive the American economy. *Forbes*, 1-5. <https://www.forbes.com/sites/forbesbusinesscouncil/2022/03/25/howsmall-businesses-drive-the-american-economy/?sh=1e29deeb4169>

Shehu, A. M., & Mahmood, R. (2014). The relationship between market orientation and business performance of Nigerian SMEs: The role of organizational culture. *International Journal of Business and Social Science*, 5(9), 159-168.

Shettima, M. B. (2019). Impact of SMEs on employment generation in Nigeria. *Journal of Humanities and Social Science*, 22(9), 43-50.

Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) & National Bureau of Statistics (NBS). (2021). *National survey on micro, small and medium enterprises (MSMEs) in Nigeria*. Abuja, Nigeria: SMEDAN.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic management journal*, 18(7), 509-533.

Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319-1350.

Umar, M., Mukhtar, D., & Aziz, M. I. (2024). Trajectory of SME development: A critical analysis and prospective insight into diversification progress in Nigeria. *Advanced International Journal of Business, Entrepreneurship and SMEs*, 6(19), 87-96.

Umetiti, C. B., Nwafor, A. E., Arachie, A. E., & Ifeme, A. P. (2025). Digital literacy in the context of small and medium enterprises (SMEs): A performance dynamics. *International Journal of Public Administration and Management Research*, 11(1), 1-17.

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, 122, 889-901.

World Bank. (2023). The Nigerian development update Jun. *World Bank*. <https://worldbank.org/en/country/Nigeria>

Yahaya, H. D., & Nadarajah, G. (2023). Determining key factors influencing SMEs' performance: A systematic literature review and experts' verification. *Cogent Business & Management*, 10(3), 1-23