

Digital Capability, Innovation Capability, and Entrepreneurial Orientation Shaping Business Performance of MSMEs in Emerging Economies

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ABSTRACT

This study examines how digital capability, innovation capability, and entrepreneurial orientation jointly shape the business performance of Micro, Small, and Medium Enterprises (MSMEs) in emerging economies. Grounded in the Resource-Based View (RBV), Dynamic Capabilities Theory (DCT), and the Technology-Organization-Environment (TOE) framework, the study adopts a qualitative approach using a Systematic Literature Review (SLR). A total of 35 peer-reviewed articles published between 2020 and 2025 were systematically selected from Scopus, Web of Science, and Google Scholar and analysed using thematic analysis. The findings indicate that digital capability provides the foundation for business performance but generates greater value when mediated by innovation capability and reinforced by entrepreneurial orientation. Innovation capability transforms digital resources into value-creating innovations, while entrepreneurial orientation strengthens organizational adaptability and opportunity recognition in dynamic business environments. The review also identifies contextual barriers, including resource limitations, digital competency gaps, and institutional constraints, which influence digital transformation outcomes in emerging economies. Overall, the study concludes that sustainable MSME performance depends on the strategic integration of organizational capabilities rather than technology adoption alone

INTRODUCTION

The digital transformation of Micro, Small, and Medium Enterprises (MSMEs) has become a central theme in contemporary business discourse, particularly in the context of emerging economies. MSMEs constitute the backbone of most developing nations, contributing significantly to employment, GDP, and innovation (Martínez-Peláez et al., 2023). However, these enterprises often face unique challenges, including limited resources, technological gaps, and volatile market conditions, which can hinder their ability to leverage digital technologies effectively (Cueto et al., 2022). The COVID-19 pandemic acted as a powerful catalyst, accelerating the need for digital adoption and exposing the vulnerabilities of MSMEs that were slow to adapt (Kallmuenzer et al., 2024).

The rapid advancement of digital technologies has fundamentally reshaped the competitive landscape, shifting business competition from resource-based advantages toward knowledge-, data-, and capability-driven competition. Emerging technologies such as artificial intelligence (AI), cloud computing, big data analytics, the Internet of Things (IoT), blockchain, and digital platforms have enabled firms to redesign business processes, improve customer engagement, and develop innovative value propositions. Nevertheless, the extent to which MSMEs can capitalize on these technological opportunities remains highly heterogeneous across emerging economies. Many enterprises continue to struggle with inadequate digital infrastructure, limited technological expertise, financial constraints, and organizational resistance to change. Consequently, digital transformation should not be viewed merely as the adoption of digital technologies but rather as a strategic organizational process requiring continuous capability development and organizational adaptation.

While the potential benefits of digital transformation – such as improved operational efficiency, market reach, and customer engagement – are well-documented, the path to achieving these benefits is not straightforward for MSMEs. Simply adopting digital tools is insufficient; firms must also develop the necessary internal capabilities to integrate and utilize these technologies effectively (Prakasa & Jumani, 2024). This has led to a growing scholarly interest in understanding the specific organizational capabilities that drive successful digital transformation. Among these, digital capability, innovation capability, and entrepreneurial orientation have emerged as critical determinants (Sagala & Óri, 2024).

Recent studies increasingly argue that sustainable competitive advantage in the digital era is achieved not through isolated organizational capabilities but through the synergistic interaction among multiple strategic capabilities. Digital capability enables firms to acquire, integrate, and exploit digital resources effectively, whereas innovation capability facilitates the transformation of these resources into new products, services, business models, and organizational processes. Simultaneously, entrepreneurial orientation provides the strategic mindset necessary to proactively identify market opportunities, embrace uncertainty, and allocate resources toward innovative initiatives. Therefore, these capabilities should be conceptualized as complementary rather than

independent organizational assets, collectively strengthening firms' ability to respond to dynamic market environments and technological disruption.

Despite this growing recognition, significant research gaps remain regarding the mechanisms through which these complementary capabilities jointly influence MSME business performance, particularly in emerging economies. Moreover, most existing studies focus on large firms in developed markets, offering limited insights for the resource-constrained, often informal, MSME sector in developing countries (Aminullah et al., 2022). In addition, prior research frequently examines digital capability, innovation capability, and entrepreneurial orientation as independent constructs, overlooking their synergistic interactions and the mediating mechanisms through which digital transformation creates business value. For instance, although entrepreneurial orientation has been acknowledged as a strategic driver of innovation, limited attention has been given to understanding how entrepreneurial orientation, digital capability, and innovation capability interact simultaneously to transform digital investments into superior business performance, particularly within MSMEs operating in emerging economies (Taleb et al., 2023).

Furthermore, the existing body of literature has predominantly relied on quantitative approaches that examine direct causal relationships among organizational constructs using structural equation modelling or similar statistical techniques. Although these studies provide robust empirical evidence regarding the significance of individual variables, they often overlook the underlying mechanisms through which digital transformation unfolds within MSMEs operating in emerging economies. Given the institutional complexity, resource scarcity, and socio-economic diversity characterizing these contexts, there is a growing need for comprehensive qualitative syntheses that integrate fragmented empirical findings into a coherent conceptual framework. Such an approach offers richer theoretical insights into the dynamic interactions among organizational capabilities and provides a more holistic understanding of the digital transformation process.

The urgency of this research is further reinforced by the increasing emphasis placed by governments and international development agencies on accelerating MSME digitalization as a strategic pillar of economic resilience and sustainable development. Across many emerging economies, national digital transformation agendas have prioritized MSMEs as key drivers of employment generation, innovation, and inclusive economic growth. However, despite substantial investments in digital infrastructure and technology adoption programmes, many MSMEs continue to experience difficulties in translating digital investments into measurable business performance. This suggests that technological adoption alone is insufficient unless accompanied by the development of complementary organizational capabilities. Consequently, understanding how digital capability, innovation capability, and entrepreneurial orientation jointly contribute to business performance has become both a theoretical necessity and a practical priority.

The primary objective of this study is to explore the digital transformation journey of MSMEs in emerging economies by developing a holistic framework that delineates the roles of digital capability, innovation capability, and entrepreneurial orientation in shaping business performance. This research aims to answer the following key questions: (1) How do digital capability, innovation capability, and entrepreneurial orientation individually and collectively influence the business performance of MSMEs in emerging economies? (2) What is the mediating role of innovation capability in the relationship between digital capability and business performance? (3) How does entrepreneurial orientation moderate the effectiveness of digital and innovation capabilities? (4) What are the primary barriers and enablers that affect this transformation process?

This study makes several important contributions. First, it provides a comprehensive, integrated framework that synthesizes multiple theoretical perspectives, including the Technology-Organization-Environment (TOE) framework, the Resource-Based View (RBV), and Dynamic Capabilities Theory (DCT). Second, it offers a nuanced understanding of the capability-performance link by proposing and justifying a mediated model. Third, it provides actionable insights for MSME owners, managers, and policymakers in emerging economies on how to strategically prioritize capability development to foster a successful digital transformation. The remainder of this paper is structured as follows: Section 2 presents a review of the relevant literature and the theoretical framework. Section 3 outlines the qualitative research methodology. Section 4 presents the key findings. Section 5 discusses the findings, their implications, and limitations. Finally, Section 6 concludes the study.

LITERATURE REVIEW

Theoretical Underpinnings

This study is anchored in three complementary theoretical perspectives: the Resource-Based View (RBV), Dynamic Capabilities Theory (DCT), and the Technology-Organization-Environment (TOE) framework. The RBV posits that a firm's competitive advantage and performance are primarily driven by its unique, valuable, rare, and inimitable resources and capabilities (Barney, 1991). In the context of digital transformation, these resources include digital assets, human capital, and organizational processes. However, the RBV has been criticized for its static nature, particularly in rapidly changing environments. This is where DCT becomes relevant, arguing that firms must develop dynamic capabilities to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Teece et al., 1997). Digital capability, innovation capability, and entrepreneurial orientation can be viewed as higher-order dynamic capabilities that enable MSMEs to sense and seize digital opportunities and transform their business models (Breiter et al., 2024; Li et al., 2023).

The TOE framework provides a complementary lens by categorizing the factors influencing technology adoption into three contexts: technological, organizational, and environmental (Tornatzky & Fleischer, 1990). The technological context includes the characteristics of the technology itself (e.g., relative advantage, compatibility). The organizational context refers to firm-

specific attributes (e.g., top management support, firm size, digital culture). The environmental context encompasses the external arena (e.g., competitive pressure, government support, market dynamism). This framework is particularly useful for understanding the multi-faceted drivers and barriers to digital transformation in MSMEs (Nguyen et al., 2022; Faiz et al., 2024).

Although the Resource-Based View (RBV), Dynamic Capabilities Theory (DCT), and the Technology–Organization–Environment (TOE) framework have frequently been employed to explain digital transformation, each theoretical perspective offers only a partial explanation when applied independently. RBV primarily emphasizes the strategic value of firm-specific resources but provides limited insights into how these resources evolve under rapidly changing technological environments. Conversely, DCT extends this perspective by highlighting the firm's ability to continuously sense emerging opportunities, seize technological innovations, and reconfigure organizational resources in response to environmental turbulence. Meanwhile, the TOE framework complements both theories by incorporating technological readiness, organizational characteristics, and environmental pressures that jointly influence digital transformation adoption. Therefore, integrating these three theoretical perspectives provides a more comprehensive explanation of how MSMEs develop digital transformation capabilities while simultaneously responding to internal and external environmental changes.

Digital Capability and Business Performance

Digital capability (DC) refers to a firm's ability to mobilize and deploy digital resources in combination with other organizational resources and capabilities to achieve its goals (Prakasa & Jumani, 2024; Abourokbah et al., 2023). It encompasses not just the possession of technology, but also the skills, knowledge, and processes to use it effectively. This includes digital marketing capability, IT infrastructure capability, and the ability to analyze data for decision-making (Sultoni et al., 2022; Sharabati et al., 2024). A strong digital capability allows MSMEs to enhance operational efficiency, improve customer engagement, and access new markets, thereby positively influencing business performance (Kilay et al., 2022).

However, the direct link between digital capability and performance is not always straightforward, especially in MSMEs. Susanti et al. (2023) found that digital transformation did not directly impact the performance of women-owned MSMEs in Indonesia, but rather had an indirect effect through innovation and competitive advantage. This suggests that digital capability is a necessary but not sufficient condition for superior performance. It must be complemented by other capabilities to be fully effective (Valdez-Juárez et al., 2024).

Beyond technological adoption, digital capability should be understood as an organizational competency that encompasses technological infrastructure, digital skills, leadership commitment, data-driven decision-making, and organizational learning. Recent literature suggests that digitally capable firms are characterized by their ability to integrate digital technologies into strategic planning, operational processes, customer relationship management, and knowledge creation rather than merely implementing standalone digital tools

(Sharabati et al., 2024; Wang et al., 2024). Consequently, digital capability represents a higher-order organizational capability that enables firms to enhance flexibility, responsiveness, and organizational resilience under conditions of continuous technological disruption. This perspective explains why firms possessing similar technological resources often experience significantly different business outcomes depending on their capability to strategically deploy those resources.

Nevertheless, digital capability alone does not automatically generate superior organizational outcomes. Firms must possess complementary innovation capability to transform digital resources into tangible business value, thereby explaining the importance of innovation capability as the mediating mechanism discussed in the following section.

Innovation Capability as a Mediator

Innovation capability (IC) is defined as a firm's ability to continuously transform knowledge and ideas into new products, processes, and systems for the benefit of the firm and its stakeholders (Heenkenda et al., 2022; Octasyilva et al., 2022). It is a multi-dimensional construct that includes both technological innovation (e.g., new product features, process automation) and non-technological innovation (e.g., new business models, marketing methods, organizational structures) (Valdez-Juárez et al., 2024).

We propose that innovation capability serves as a critical mediator in the digital capability-performance relationship. Digital technologies provide the tools and data that can fuel innovation. For instance, big data analytics can reveal customer insights that lead to product innovation, while e-commerce platforms enable service innovation (Yang et al., 2023). However, the mere presence of digital tools does not automatically lead to innovation. A firm must have the innovation capability to absorb, process, and apply digital resources creatively (Budiarti & Firmansyah, 2024). This argument is supported by the knowledge-based view (KBV), which suggests that knowledge creation and application are central to value creation (Hasan et al., 2024). Digital capability enhances a firm's knowledge base, which, when combined with a strong innovation capability, leads to superior performance. This mediating role is also supported by the findings of Susanti et al. (2023) and Heenkenda et al. (2022), who found that innovation capability significantly mediates the impact of digital transformation on sustainability and performance.

Innovation capability extends beyond the development of new products and technologies by encompassing the firm's capacity to generate, absorb, disseminate, and apply knowledge throughout the organization. In the context of digital transformation, innovation capability facilitates organizational learning and enables firms to convert digital information into commercially valuable innovations, including service innovations, digital business models, process improvements, and customer experience innovations. This capability is particularly important for MSMEs because resource limitations often require them to pursue incremental and market-driven innovation strategies instead of large-scale technological breakthroughs. Accordingly, innovation capability

serves as a strategic mechanism through which digital investments generate sustainable competitive advantage and long-term organizational performance. However, the effectiveness of innovation capability largely depends on the strategic posture of the organization. Consequently, entrepreneurial orientation becomes a critical organizational attribute that determines whether innovation initiatives are proactively pursued and successfully translated into superior business performance.

Entrepreneurial Orientation as a Moderator and Driver

Entrepreneurial orientation (EO) refers to the strategic posture of a firm, characterized by proactiveness, risk-taking, and innovativeness (Cheng et al., 2025; Yadav et al., 2024). Proactiveness involves anticipating and acting on future market needs. Risk-taking implies a willingness to commit resources to projects with uncertain outcomes. Innovativeness reflects a tendency to support new ideas and creative processes. EO is a critical intangible resource that shapes how a firm perceives and exploits opportunities (Cunningham et al., 2023).

In the context of digital transformation, EO plays a dual role. First, it acts as a direct driver of performance. MSMEs with a high EO are more likely to aggressively pursue digital opportunities, develop innovative products, and enter new markets, leading to better performance outcomes (Octasyilva et al., 2022; Loo et al., 2023). Second, and more importantly for this study, EO is hypothesized to moderate the effectiveness of digital and innovation capabilities. A firm with a high EO will be more adept at leveraging its digital capability to identify and exploit market opportunities, and more willing to invest in the risky, uncertain process of innovation (Taleb et al., 2023). Conversely, a firm with a low EO may have strong digital tools but lack the strategic drive to use them for anything other than incremental improvements, limiting their performance impact. This moderating effect is supported by the work of Purwanti et al. (2022), who found that environmental dynamism strengthens the link between digital marketing capability and performance, and EO is a key internal driver of proactiveness in dynamic environments.

Entrepreneurial orientation also plays a pivotal role in strengthening organizational adaptability during digital transformation. Organizations characterized by proactive strategic behaviour, innovativeness, and calculated risk-taking are more likely to experiment with emerging technologies, identify new market opportunities, and rapidly reconfigure business models in response to environmental uncertainty. Furthermore, entrepreneurial orientation fosters an organizational culture that encourages continuous learning, cross-functional collaboration, and opportunity recognition, thereby amplifying the effectiveness of both digital capability and innovation capability. Rather than acting as an isolated strategic resource, entrepreneurial orientation functions as a behavioural catalyst that accelerates organizational transformation and enhances the firm's ability to achieve sustainable competitive performance within increasingly dynamic digital ecosystems.

Nevertheless, the effectiveness of entrepreneurial orientation is not independent of the external environment. Institutional support, digital ecosystems, and environmental uncertainty may either facilitate or constrain the

ability of entrepreneurial firms to capitalize on digital transformation opportunities. These contextual factors are discussed in the following section.

Barriers and Enablers in the Emerging Economy Context

MSMEs in emerging economies face a unique set of challenges that shape their digital transformation journey. Key barriers include a lack of digital skills and talent (Muafi et al., 2023; Romero & Mammadov, 2024), inadequate digital infrastructure (Cueto et al., 2022), financial constraints (Faiz et al., 2024), and a risk-averse organizational culture (Kallmuenzer et al., 2024). The institutional environment, including government support and legal frameworks, also plays a crucial role (Nguyen et al., 2022). Conversely, key enablers include top management support (Faiz et al., 2024), a strong digital culture (Wang et al., 2024), access to external knowledge and networks (Saari et al., 2023), and the presence of supportive digital ecosystems (Aminullah et al., 2022). These factors collectively influence the development and deployment of digital, innovation, and entrepreneurial capabilities.

Conceptual Framework

Based on the synthesis of the literature and the theoretical underpinnings, we propose the following conceptual framework. The framework posits that digital capability directly influences business performance, but this relationship is partially mediated by innovation capability. Entrepreneurial orientation serves as a moderator, strengthening the positive effects of both digital capability and innovation capability on business performance. The framework also acknowledges the contextual influence of barriers and enablers specific to emerging economies.

[FIGURE: Conceptual Framework showing the relationships between Digital Capability, Innovation Capability, Entrepreneurial Orientation, and Business Performance, with Innovation Capability as a mediator and Entrepreneurial Orientation as a moderator.]

METHODOLOGY

Research Design

This study employs a qualitative research design based on a systematic literature review (SLR). This approach is appropriate for exploring complex, multi-faceted phenomena like digital transformation, where the goal is to synthesize existing knowledge, identify patterns, and develop a conceptual model (Sagala & Óri, 2024; Suchek et al., 2022). The qualitative synthesis allows for a deep, contextualized understanding of the "how" and "why" behind the relationships between capabilities and performance.

Data Collection and Search Strategy

A systematic search was conducted in three major academic databases: Scopus, Web of Science, and Google Scholar. The search was limited to peer-reviewed journal articles published in English between 2020 and 2025 to ensure the timeliness and relevance of the findings. The search string was constructed using a combination of keywords related to the core concepts: ("digital transformation" OR "digitalization" OR "digital capability") AND ("MSMEs" OR "SMEs" OR "small business") AND ("innovation capability" OR "innovativeness") AND ("entrepreneurial orientation" OR "entrepreneurship") AND ("business

performance" OR "firm performance" OR "competitive advantage") AND ("emerging economy" OR "developing country").

Inclusion and Exclusion Criteria

Articles were included if they: (1) were published in a peer-reviewed journal; (2) focused on MSMEs/SMEs; (3) addressed at least one of the core constructs (digital capability, innovation capability, entrepreneurial orientation); (4) discussed business performance outcomes; (5) were set in an emerging economy context; and (6) were published between 2020 and 2025. Articles were excluded if they: (1) were conference proceedings, book chapters, or editorials; (2) focused exclusively on large firms; (3) were purely theoretical without empirical grounding; or (4) were not available in English. The initial search yielded 487 articles. After removing duplicates and screening titles and abstracts, 85 articles were selected for full-text review. Following the application of the inclusion/exclusion criteria, a final sample of 35 high-quality articles was retained for synthesis. The 35 articles used in this study form the core of the reference list.

Data Analysis

Thematic analysis was used to analyze the selected articles. The process involved: (1) familiarization with the data by reading and re-reading the articles; (2) generating initial codes based on the key concepts (e.g., "digital skills gap," "product innovation," "risk-taking," "market performance"); (3) searching for themes by grouping related codes into broader themes (e.g., "digital capability," "innovation capability," "entrepreneurial orientation"); (4) reviewing themes to ensure they accurately represented the data; and (5) defining and naming the final themes. The analysis was iterative, with themes being refined as new insights emerged. The findings were then synthesized into a narrative summary and used to develop the conceptual framework.

RESULTS

Descriptive Analysis of Selected Studies

The final sample of 35 articles was diverse in terms of geographic focus, methodology, and thematic emphasis. The majority of studies were conducted in Asian emerging economies, particularly Indonesia, China, Malaysia, and Vietnam, reflecting the high concentration of MSMEs in these regions. A smaller number of studies focused on Latin America (e.g., Mexico) and other regions. The research methods were predominantly quantitative (using surveys and PLS-SEM), but a significant number of qualitative (case studies, interviews) and mixed-method studies were also included, along with several systematic literature reviews. Thematically, the studies could be grouped into four main categories: (1) studies focusing on the direct impact of digital technologies on performance; (2) studies examining the role of specific capabilities (e.g., digital marketing, innovation); (3) studies exploring the mediating and moderating mechanisms; and (4) studies investigating barriers and enablers.

Theme 1: The Foundational Role of Digital Capability

A consistent finding across the reviewed literature is the positive, albeit often indirect, influence of digital capability on MSME performance. Digital capability is not a monolithic construct; it encompasses a range of sub-capabilities. For example, Sharabati et al. (2024) and Sultoni et al. (2022) highlighted the importance of digital marketing capability in enhancing customer engagement and market reach. Kilay et al. (2022) demonstrated the positive impact of e-payment and e-commerce service capabilities on supply chain performance. Abourokbah et al. (2023) emphasized the role of digital capability in enhancing supply chain agility and resilience. These studies collectively suggest that a multi-faceted digital capability is a necessary foundation for digital transformation.

"The results revealed that digital marketing is essential for SME effectiveness, as a driver of digital transformation, leading to stronger economic results and an enlarged market presence." (Sharabati et al., 2024, p. 1)

However, several studies also noted that the direct effect of digital capability on financial performance is often weak or non-significant. Valdez-Juárez et al. (2024) found that digital transformation had a small direct effect on the financial performance of Mexican SMEs. Similarly, Susanti et al. (2023) found no direct impact of digital transformation on the performance of women-owned MSMEs in Indonesia. This reinforces the idea that digital capability is an enabler, not a direct driver of performance, and its value is realized through other organizational processes.

Theme 2: Innovation Capability as a Critical Mediator

The most prominent theme emerging from the analysis is the mediating role of innovation capability. The literature strongly suggests that digital capability enhances performance primarily by fostering innovation. Heenkenda et al. (2022) found that innovation capability positively predicted sustainability in SMEs and partially mediated the relationship between disruptive technology and sustainability. Octasyuva et al. (2022) concluded that innovativeness, a key component of EO, was critical for MSME performance, and its effect was channeled through marketing capabilities. Budiarti and Firmansyah (2024) demonstrated that the digital transformation of human resources enhances innovation capability, and this relationship is mediated by digital talent.

The findings of Yang et al. (2023) are particularly illustrative. They studied cross-border e-commerce firms and found that digital transformation capability (a form of digital capability) positively impacted enterprise performance, and this relationship was partially mediated by the service capability of the digital platform. This shows that digital capability enables firms to innovate their service offerings, which in turn drives performance. The synthesis of the evidence strongly supports the proposition that innovation capability is a key mechanism through which digital investments translate into superior business outcomes.

Table 1. Summary of Key Studies on Mediating Role of Innovation Capability

Author(s) (Year)	Context	Key Finding
Heenkenda et al. (2022)	Sri Lanka	Innovation capability partially mediates the link between disruptive technology and SME sustainability.
Susanti et al. (2023)	Indonesia	Innovation and competitive advantage mediate the impact of digital transformation on women-led MSME performance.
Yang et al. (2023)	China	Digital transformation capability impacts performance through the mediating role of platform service capability (a form of innovation).
Prakasa & Jumaní (2024)	Indonesia	Digital business transformation (a process of innovation) mediates the link between digital capability and small business performance.
Valdez-Juárez et al. (2024)	Mexico	Digital transformation drives technological and non-technological innovation, which in turn improves financial performance.

Theme 3: Entrepreneurial Orientation as a Driving Force and Moderator

Entrepreneurial orientation (EO) emerged as a crucial factor that shapes the entire digital transformation journey. A high level of EO, characterized by proactiveness, risk-taking, and innovativeness, was found to be a direct driver of performance. Octasyilva et al. (2022) found that innovativeness, a dimension of EO, was the key to MSME performance. Taleb et al. (2023) showed that entrepreneurial leadership, which fosters EO, positively impacts entrepreneurial success, mediated by opportunity recognition and innovation capability. Cheng et al. (2025) confirmed that EO positively promotes market orientation and performance in entrepreneurial firms.

More importantly, the literature indicates that EO acts as a moderator, amplifying the effects of other capabilities. Firms with a strong EO are more likely to take the risks necessary to invest in new digital technologies and to be proactive in using them to innovate. Purwanti et al. (2022) found that environmental dynamism strengthened the relationship between digital marketing capability and MSME performance, and EO is a key internal driver that enables firms to respond dynamically. Yadav et al. (2024) demonstrated that EO and digital transformation moderate the impact of ESG on environmental performance, highlighting the synergistic role of these factors. This suggests that digital and innovation capabilities are most effective when embedded in a firm with a strong entrepreneurial strategic posture.

"The findings reveal that an EL [entrepreneurial leadership] has a significant positive effect on ES [entrepreneurial success] but is conditional on the mediating role of EOR [entrepreneurial opportunity recognition] and IC [innovation capability]." (Taleb et al., 2023, p. 1)

Theme 4: Contextual Barriers and Enablers in Emerging Economies

The analysis highlighted several context-specific factors that influence the capability-performance link. A major barrier is the digital skills gap. Muafi et al. (2023) found that digital skills did not have a direct positive effect on sustainable performance but were mediated by job satisfaction, indicating that skills alone are not enough. Romero and Mammadov (2024) emphasized that internal skills and external knowledge sources are critical complementary drivers for digital innovation. The lack of a supportive digital culture and top management support was also identified as a significant barrier (Faiz et al., 2024; Kallmuenzer et al., 2024).

On the other hand, enablers include a supportive government and legal framework (Nguyen et al., 2022), access to a digital ecosystem (Aminullah et al., 2022), and a strong organizational culture of learning and adaptability (Wang et al., 2024). The role of stakeholders, including customers, suppliers, and partners, was also emphasized as crucial for successful transformation (Martínez-Peláez et al., 2023). The financial literacy and digital economic literacy of the entrepreneur were also found to be important intangible assets that drive success (Hasan et al., 2024).

DISCUSSION

Interpretation of Findings

The findings of this systematic review provide a comprehensive and nuanced understanding of the digital transformation journey of MSMEs in emerging economies. The central contribution is the validation of a mediated model where innovation capability acts as a crucial bridge between digital capability and business performance. This finding challenges the simplistic, direct-effect models that are often implicit in practitioner literature. It aligns with the dynamic capabilities view (Teece et al., 1997), which posits that firms must develop the ability to reconfigure their resources (digital capability) to create new value (innovation) in response to changing environments (Breiter et al., 2024).

The strong mediating role of innovation capability explains why many MSMEs fail to see a return on their digital investments. They may purchase software or set up a website (digital capability) but lack the organizational processes, culture, and skills (innovation capability) to use these tools to develop new products, services, or business models. For instance, a small retailer may adopt an e-commerce platform (digital capability) but not use the data from it to personalize customer offers or optimize its supply chain (innovation), thus failing to realize the full performance potential. This is consistent with the findings of Susanti et al. (2023) and Valdez-Juárez et al. (2024).

The moderating role of entrepreneurial orientation (EO) is equally important. The results suggest that EO is not just a direct driver of performance but also a catalyst that amplifies the effectiveness of other capabilities. A proactive, risk-taking MSME is more likely to experiment with digital tools, learn from failures, and aggressively pursue innovative opportunities, thereby converting its digital capability into superior performance more effectively than a conservative firm. This finding extends the work of Taleb et al. (2023) and Cheng et al. (2025) by demonstrating the synergistic interaction between EO and

other organizational capabilities. It also provides a theoretical explanation for the "digital divide" among MSMEs: even with similar access to technology, firms with a higher EO will outperform those with a lower EO.

Comparison with Existing Literature

Our findings are broadly consistent with the growing body of literature on digital transformation in SMEs. The emphasis on capability building over mere technology adoption echoes the conclusions of Sagala and Óri (2024) and Kallmuenzer et al. (2024), who argue that success depends on a strategic interplay of technological, human, and organizational factors. Our study extends this by explicitly modeling the mediating and moderating mechanisms.

However, our study also offers a more critical perspective. While much of the literature is optimistic about the potential of digital transformation, our findings highlight the significant challenges and the non-linear nature of the journey. The weak direct effect of digital capability on performance, as found in several studies (Susanti et al., 2023; Valdez-Juárez et al., 2024), serves as a cautionary note. It suggests that simply encouraging MSMEs to "go digital" without a parallel focus on building innovation capability and fostering an entrepreneurial culture may be an ineffective policy strategy. This aligns with the findings of Loo et al. (2023), who call for a more holistic approach to technology adoption.

Theoretical Implications

This study makes several theoretical contributions. First, it integrates the RBV, DCT, and TOE framework into a single, coherent model. This multi-theoretical approach provides a richer understanding of the phenomenon than any single theory could offer. The RBV helps identify the key resources (digital, innovation, EO), DCT explains how these resources are dynamically deployed and reconfigured, and the TOE framework contextualizes the process within the specific technological, organizational, and environmental realities of emerging economies.

Second, the study contributes to the literature on dynamic capabilities by empirically grounding the concept of a "digital innovation capability." This is a higher-order capability that combines digital resources with innovation processes. The study suggests that this composite capability is a more potent driver of performance than either digital capability or innovation capability alone. This builds on the work of Abourobah et al. (2023) and Breiter et al. (2024). Third, the study clarifies the distinct roles of EO. By distinguishing between its direct effect and its moderating effect, we provide a more precise understanding of how EO contributes to performance. This addresses a gap in the literature, where the precise mechanisms through which EO influences outcomes are often unclear (Cheng et al., 2025).

Practical and Policy Implications

For MSME owners and managers, the most important implication is that digital transformation is not a technology project but a strategic capability-building exercise. The journey should begin with an assessment of the firm's existing digital capability, innovation capability, and entrepreneurial orientation. The findings suggest a clear priority: invest in building innovation capability.

This means fostering a culture of experimentation, allocating resources for R&D, and developing processes for converting ideas into new products or services. Simultaneously, efforts should be made to strengthen the firm's entrepreneurial posture by encouraging proactiveness, calculated risk-taking, and a relentless focus on innovation.

For policymakers, the findings underscore the need for a holistic approach to supporting MSME digitalization. Policies that simply provide subsidies for technology adoption are unlikely to be sufficient. Instead, support should be directed towards building the broader ecosystem. This could include: (1) funding for digital skills training programs that go beyond basic IT literacy to include data analytics, digital marketing, and innovation management; (2) creating platforms for knowledge sharing and collaboration between MSMEs, universities, and technology providers (Romero & Mammadov, 2024); (3) developing mentorship programs that pair experienced entrepreneurs with new MSME owners to foster an entrepreneurial mindset; and (4) providing financial incentives for innovation activities, such as R&D tax credits or innovation grants (Faiz et al., 2024).

CONCLUSIONS AND RECOMMENDATIONS

This study set out to explore the digital transformation journey of MSMEs in emerging economies, focusing on the interplay of digital capability, innovation capability, and entrepreneurial orientation in shaping business performance. Through a systematic review and synthesis of 35 high-quality articles, we have developed a comprehensive conceptual framework that moves beyond simplistic linear models. The key conclusion is that digital capability is a foundational enabler, but its potential is realized primarily through the mediating mechanism of innovation capability. MSMEs that successfully transform their digital resources into new products, processes, and business models are the ones that achieve superior performance. Furthermore, this process is significantly amplified by a strong entrepreneurial orientation, which provides the strategic drive and risk appetite necessary for successful innovation in a dynamic environment.

The journey of digital transformation for MSMEs in emerging economies is fraught with challenges, including resource constraints, skills gaps, and environmental volatility. However, it also presents immense opportunities for growth, competitiveness, and sustainability. The path to success lies not in the technology itself, but in the deliberate and strategic development of the organizational capabilities needed to wield it effectively. By prioritizing the building of innovation capability and fostering an entrepreneurial culture, MSMEs can navigate their digital transformation journey more effectively and secure a prosperous future in the digital age.

FURTHER STUDY

This study has several limitations. First, the qualitative nature of the research, while providing depth, does not allow for statistical testing of the proposed conceptual model. The findings are based on the synthesis of existing studies, which may have their own methodological limitations. Future research

should empirically test the proposed framework using quantitative methods, such as a large-scale survey and structural equation modeling, to validate the mediating and moderating effects.

Second, the study focused on a broad range of emerging economies, but the specific context of each country (e.g., regulatory environment, digital infrastructure, cultural factors) can significantly influence the relationships. Future research could conduct comparative studies across different emerging economies to identify context-specific nuances. For instance, the role of government support might be more critical in some countries than others (Nguyen et al., 2022).

Third, the study treated digital capability, innovation capability, and entrepreneurial orientation as aggregate constructs. Future research could disaggregate these constructs to explore the specific effects of their sub-dimensions. For example, which aspect of digital capability (e.g., data analytics vs. digital marketing) is most important for driving innovation? Which dimension of EO (e.g., proactiveness vs. risk-taking) is the strongest moderator? This would provide more granular and actionable insights.

Fourth, the study did not explicitly consider the role of the circular economy or sustainability goals. Given the growing importance of sustainability, future research could integrate these aspects, examining how digital capability and innovation can be leveraged to create circular business models and improve environmental performance, a concept known as "twin transformation" (Breiter et al., 2024; Saari et al., 2023; Yadav et al., 2024).

Finally, the study is cross-sectional in nature, as it synthesizes findings from a specific time period. Digital transformation is a dynamic, long-term process. Longitudinal studies are needed to track how the relationships between capabilities and performance evolve over time, and to understand the causal direction of these relationships.

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Ultimately, the author hopes that the findings of this research will contribute meaningfully to the advancement of academic literature on financial technology adoption, as well as provide practical benefits for tech developers and policymakers in supporting small business growth.

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