

Digital Innovation and MSMEs Performance in Building Adaptive Business Models in the Age of Disruption: A Literature Review

Yohanis Rante¹ Roman Philander Lagaronda² Indra Eka Wardana Toii³
Alfani Laura Harikedua⁴

^{1,3,4} Universitas Cenderawasih, Jayapura, Indonesia

² Universitas Ottow Geissler Papua

Abstract

This study aims to critically review the role of digital innovation in improving MSMEs performance through the development of adaptive business models in the age of disruption. Using a literature review approach, this article analyzes selected studies related to digital innovation, adaptive capabilities, business model innovation, resilience, agility, and MSMEs performance. The findings indicate that digital innovation does not automatically improve MSMEs performance; rather, its impact depends on the ability of MSMEs to develop adaptive capabilities, absorb external knowledge, foster open innovation, and reconfigure business models in response to market turbulence. The review also highlights that resilience and agility serve as critical mechanisms linking digital innovation and sustainable performance. This study contributes to the literature by integrating digital innovation, adaptive business models, and MSMEs performance into a conceptual framework relevant to developing economy contexts. The article also offers practical recommendations for MSMEs, policymakers, and future researchers in strengthening digital transformation and business resilience.

Keywords: Digital Innovation; MSMEs Performance; Adaptive Business Model; Resilience; Business Model Innovation

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CORRESPONDING AUTHOR:

Roman Philander
Lagaronda
Romanphilander.rp@gmail.com

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INTRODUCTION

The era of digital disruption has fundamentally transformed the business landscape, demanding adaptation and innovation across various sectors, including Micro, Small and Medium-sized Enterprises (MSMEs). Digital technology is no longer an option, but a necessity for ensuring sustainability and enhancing competitiveness (Bouwman et al., 2018). The exponential changes across all industries are forcing companies to undergo transformation in order to sustain their businesses in the future (Munandar et al., 2025). Organizations need to rethink their strategies to cope with rapid change in the digital age. MSMEs, as the backbone of the economy in many developing countries, including Indonesia, face significant pressure to innovate and adopt digital technology in order to maintain their relevance and competitiveness in an increasingly dynamic market (Mangifera et al., 2022). The gap between MSMEs capable of adapting to digital innovation and those that are not has the potential to create significant economic disparities (Wang et al., 2023).

Digital transformation has a significant impact on improving performance, cost efficiency and competitiveness (Cosa & Torelli, 2024). Key strategies that have proven effective include the use of information and communication technology (ICT) to enhance operational efficiency, the development of innovative digital business models, and the strengthening of managerial capacity and digital literacy (Sagala & Öri, 2024). The adoption of technological innovations by MSMEs is highly dependent on the public's digital literacy and readiness to understand, access, and use digital technology effectively (Prihandono et al., 2024). Without adequate digital literacy, MSMEs will struggle to integrate digital technology into their business operations, which will ultimately hinder their growth and competitiveness (Hafeez et al., 2025).

Digital leadership is also a crucial element in the success of this transformation (Marcel De Araujo et al., 2021). Digital leaders possess different capabilities and perspectives compared to traditional leaders (Arabiun et al., 2024). They are essential for organizations to survive in the new digital era by adapting and transforming business strategies, as well as enhancing the company's digital assets. However, many organizations, including MSMEs, often fail to understand the value and urgency of digital leadership, which can lead to poor performance and failure to adapt (Mieszajkina & Myśliwiecka, 2024). It is therefore important to examine how digital innovation, supported by digital leadership and literacy, can drive MSMEs performance through the development of adaptive business models (Mendo et al., 2025)

Adaptive business models are key to MSMEs survival amidst market volatility and post-pandemic uncertainty (Priyono et al., 2020). Innovation must be at the heart of day to day decision making, rather than merely an occasional project, given the increasingly fast-paced and unpredictable nature of business competition (Khalil et al., 2022a). Digitalization is displacing traditional ways of working, consumption is shifting to online channels, and demands for sustainability are growing (Mangifera et al., 2022b). This requires organizations to adopt strategies that are agile, responsive, and relevant (Teng et al., 2022a). The integration of strategic

management theories, such as strategic planning, the resource-based view, and competitive strategy, can significantly enhance the performance of MSMEs by strengthening adaptability, innovation, and operational efficiency (González-Varona et al., 2021). Organizational learning, particularly ambidextrous learning, has also emerged as the strongest mechanism linking adaptive strategies with competitive sustainability (Ong et al., 2021a).

This study aims to provide a critical review of how digital innovation influences the performance of MSMEs, with a focus on the development of adaptive business models in an era of disruption. This study analyzes the strategic role of digital innovation in helping MSMEs achieve sustainable performance through adaptive business models. This study will integrate various theoretical and empirical perspectives to present a comprehensive understanding of the dynamics of digital innovation within the MSMEs context, highlighting the importance of multi-stakeholder collaboration to strengthen the digital entrepreneurship ecosystem. Consequently, this research is expected to make a significant contribution to the development of literature and best practices for MSMEs in addressing the challenges of the digital era.

LITERATURE STUDY

Digital Innovation

Digital innovation refers to the use of digital technology to create new products, processes, business models or services that generate added value and competitive advantage (Ong et al., 2021b). In an era of disruption, digital innovation has become imperative for organizations to survive and thrive, given the exponential changes driven by technology across all industries (Prihandono et al., 2024). This involves not only the adoption of new technologies, but also the organizations ability to adaptively integrate these technologies into its core and operational strategies (Hanoum et al., 2025).

Digital transformation, which lies at the heart of digital innovation, has fundamentally transformed the business landscape (Imran et al., 2025). Consequently, technological innovation is no longer an option, but a necessity for achieving sustainable competitive advantage (Cosa & Torelli, 2024). Digital innovation enables organizations to develop new business models, such as platform-based, subscription, or e-commerce models, which expand market reach and create unique added value (Ciasullo et al., 2025a). Furthermore, the adoption of technological innovation by Micro, Small and Medium Enterprises (MSMEs) plays a strategic role in boosting their competitiveness (Teng et al., 2022b).

A key aspect of digital innovation involves accelerating the innovation cycle (Held et al., 2025). Digital transformation, through the utilization of customer data, process automation, and

platform integration, enables organizations to test ideas, improve services, and respond to the market more swiftly (Wang et al., 2023b). This highlights that innovation must be at the core of daily decision-making, rather than merely an occasional project. The public's digital literacy also acts as a key catalyst in the process of technology adoption by MSMEs, both in terms of improving operational efficiency and developing digital markets (Khalil et al., 2022b).

The effective use of information and communication technology is key to improving operational efficiency and competitiveness in the context of digital innovation (Warner & Wäger, 2019). Furthermore, digital innovation also drives improvements in performance, cost efficiency, and overall competitiveness (Teng et al., 2022b). The success of digital innovation depends heavily on the public's readiness to understand, access, and use digital technology effectively (Hafeez et al., 2025). This requires strengthening managerial capacity and digital literacy, often driven by the role of the younger generation and digital entrepreneurship training programs (Hafeez et al., 2025). Synergy between the government, digital platforms, communities, and businesses is crucial in building an inclusive and sustainable digital ecosystem to support this innovation.

Therefore, digital innovation should be understood not merely as technology adoption, but as a strategic capability that enables MSMEs to redesign their operations, market relationships, and value creation mechanisms.

MSMEs Performance

The performance of MSMEs is a measure of a business's success in achieving its financial and non-financial objectives, encompassing aspects such as profitability, sales growth, market share, customer satisfaction and operational efficiency (Hadi Putra & Santoso, 2020). In Indonesia, MSMEs play a crucial role in economic development and job creation, yet they frequently face challenges relating to competitiveness, sustainability, and strategic decision-making (Munandar et al., 2025). The era of digital disruption is increasingly demanding that MSMEs adapt and improve their performance (Mieszajkina & Myśliwiecka, 2024).

Improvements in the performance of MSMEs are significantly influenced by their ability to integrate strategic management theory, which encompasses planning, resource allocation and decision-making for long-term competitiveness (Arifin & Hartono, 2025a). Research indicates that the integration of strategic planning, resource-based views, and competitive strategies significantly enhances the performance of MSMEs by strengthening adaptability, innovation, and operational efficiency (Bekata & Kero, 2025). Consequently, the adoption of structured strategic management practices is essential for MSMEs to remain competitive in a dynamic market (Bamidele Micheal Omowole et al., 2024).

Technological innovation has a significant impact on improving the performance of MSMEs (Verhoef et al., 2021). The use of digital technology can enhance operational efficiency, which in turn contributes to an improvement in overall performance (Arabiun et al., 2024). The adoption of technological innovation also helps MSMEs to develop digital markets and strengthen their competitiveness (Verhoef et al., 2021). Digital literacy among the public is a key catalyst in this process, as the ability to understand and use digital technology effectively will drive the success of MSMEs' digital transformation (Mangifera et al., 2022a).

The quality of human resources (HR) is another key factor in strategies for the development and optimization of MSMEs performance (Roy et al., 2025). Mentoring programs focused on managerial literacy education can significantly transform the internal capabilities of MSMEs operators, enhance entrepreneurial orientation, and improve product diversification and market expansion capabilities. This creates a sustainable competitive advantage for MSMEs (Ciasullo et al., 2025b).

Nevertheless, MSMEs often face structural, technical, and institutional weaknesses, such as unsystematic organizational structures, weak leadership, a lack of business plans, and low adoption of digital technology. Training integrated into business management and digital marketing can enhance organizational capacity, strategic planning, financial accountability, and the use of digital platforms for marketing, which ultimately has a direct impact on improved economic performance.

Accordingly, MSMEs performance in the digital era should be measured not only through financial indicators but also through innovation capability, adaptability, customer responsiveness, and business resilience.

Adaptive Business Model

An adaptive business model is a flexible and responsive framework that enables organizations to align their strategies, operations and value propositions with rapid and unpredictable changes in the market environment (Ndlovu et al., 2025). In an era of disruption, where digital technology is driving exponential change across all industries, the ability to adapt business models is no longer an option, but a necessity for sustaining business in the future (Bamidele Micheal Omowole et al., 2024). Organizations need to rethink their strategies to cope with these rapid changes.

The importance of adaptive business models is underscored by an increasingly fast-paced and unpredictable business environment, digitalization that is disrupting traditional ways of working, a shift in consumption towards online channels, and sustainability demands (Abuseta et al., 2025). Traditional strategies focused on cost efficiency and established distribution channels are becoming less effective, meaning organizations require strategies that are agile, responsive, and

relevant (Sagala & Öri, 2026). This adaptation process enables MSMEs not only to survive but also to gain a competitive edge (Arraya, 2025).

One of the key components of an adaptive business model is innovation (Arifin & Hartono, 2025a). Innovation must be at the heart of day-to-day decision-making, not merely an occasional project. This encompasses innovation in products, processes, and the business model itself. The use of information and communication technology is fundamental to developing innovative digital business models, such as platform-based, subscription, or e-commerce models (Alake et al., 2024). These models enable the creation of unique added value and a massive expansion of market reach.

Research indicates that operational flexibility and product or service innovation are the most common adaptive strategies among MSMEs (Smuts et al., 2024). Organizational learning, particularly ambidextrous learning, emerges as the strongest mediating mechanism linking adaptive strategies to sustained competitiveness (Lagaronda et al., 2025). This suggests that to be adaptive, organizations must be able to learn from experience, explore new opportunities, and exploit existing capabilities simultaneously (Bamidele Micheal Omowole et al., 2024).

The business ecosystem context also moderates the relationship between adaptive strategy and sustainability (Bamidele Micheal Omowole et al., 2024). Business ecosystem support, organizational size, entrepreneurial orientation, and the intensity of digitalization all play a role in the success of adaptive business models. Digital leadership is crucial for organizations to survive in the new digital era by adapting and transforming their business strategies (Abuseta et al., 2025). Digital leaders possess different capabilities and perspectives compared to traditional leaders, which are crucial in driving digital business transformation and creating sustainable competitive advantage (Arabian et al., 2024). Thus, adaptive business models function as a strategic mechanism through which digital innovation is translated into improved MSMEs performance.

METODE

This section will outline the research methodology used to examine digital innovation and the performance of MSMEs, with a focus on adaptive business models in the era of disruption. This approach is designed to provide a critical and in-depth review of the existing literature, identifying patterns, mechanisms, and factors influencing the relationship between digital innovation, business model adaptation, and MSMEs performance. The chosen method is based on a systematic literature review to ensure comprehensive coverage and objective analysis of the research topic.

In this context, this critical review will analyze how MSMEs adapt their business models through digital innovation to maintain and improve performance amidst disruption. The focus is on adaptive strategies, organizational learning, and the role of digital leadership in addressing the exponential changes driven by technology.

The literature was selected based on its relevance to digital innovation, MSMEs performance, business model innovation, adaptive capabilities, resilience, and agility. The selected articles were analyzed using a critical literature matrix consisting of author identity, research context, theoretical framework, methodology, key constructs, main findings, limitations, and relevance to the current study. The analysis was then synthesized thematically to identify dominant patterns, conceptual relationships, research gaps, and future research directions.

RESULT

Table 1: Matriks Literature Review

No	Research Title and Author	Journal Volume	Context and Subject	Theoretical Framework	Methodology and Sample	Key Constructs	Main Findings	Critical Review and Limitations	Relevance
1	Resilience and innovation: MSMEs responses in global value chains under uncertainty (Hortovanyi & Szepesi, 2026) https://doi.org/10.1016/j.jbusres.2026.116120	Journal of Business Research, 209, 116120	69 MSMEs in global value chains; the context of uncertainty and crisis.	GVC upgrading, organizational learning, strategic agency, crisis response.	Qualitative; multiple case study; maximum variation sampling.	Strategic agency; learning intent; supplier upgrading; crisis response strategies.	A crisis can act as a catalyst for upgrading. Response strategies include functional upgrading, chain upgrading, hybrid approaches and passive reactions. The intention to learn and managerial agency determine whether short-term adaptations develop into strategic	This provides a strong basis for explaining the strategic adaptation of MSMEs in the face of external pressures, but the context of global value chains (GVCs) means that generalizations regarding local MSMEs that are not suppliers should be treated with caution.	This demonstrates that disruption is not merely a threat, but an opportunity for business model innovation, provided that MSMEs possess a willingness to learn and strategic autonomy.

No	Research Title and Author	Journal Volume	Context and Subject	Theoretical Framework	Methodology and Sample	Key Constructs	Main Findings	Critical Review and Limitations	Relevance
							repositioning.		
2	Business model innovation and MSMEs' resilience: Technological roadmap in Nigeria (Alake et al., 2024) https://doi.org/10.3846/btp.2024.18978	Business: Theory and Practice, 25(2), 614–624	420 MSMEs operators in Nigeria.	Resource-Based View, Dynamic Capability Theory, Institutional Theory; Technology Acceptance perspective.	Quantitative survey; purposive and convenience sampling; Smart-PLS 3.0.	Business model innovation ; technology competence; MSMEs' resilience; sustainability.	Technological competence strengthens the link between business model innovation and resilience. MSMEs need to integrate technological capabilities to maximize the impact of business model innovation on business resilience.	It provides strong empirical evidence in emerging economies, but the use of non-probability sampling limits population-level inferences.	This directly supports the argument that digital and technological innovation acts as a catalyst for the performance and resilience of MSMEs through business model innovation.
3	The intersection of business models and MSME performance: A bibliometric analysis of research trends (Ndlovu et al., 2025) https://doi.org/10.3390/admsci15040143	Administrative Sciences, 15(4), 143	Scopus database 1957–2025; 307 selected studies, 22 of which focus specifically on MSME performance.	Bibliometric review; business model, digitalization, innovation, sustainability.	Bibliometric analysis; PRISMA 2020; mapping trends and gaps.	MSMEs business models; MSMEs performance; digitalization; BMI; sustainability.	The three main themes are digitalization, business model innovation and sustainability. The study highlights geographical disparities and a lack of	Strong as a literature review and for identifying research gaps; limited by the scope of the database and the articles that meet the criteria.	It is highly relevant as the basis for the structure of the literature review as it highlights the intersection of business models, digitalization and the performance of MSMEs.

No	Research Title and Author	Journal Volume	Context and Subject	Theoretical Framework	Methodology and Sample	Key Constructs	Main Findings	Critical Review and Limitations	Relevance
							explicit focus on the performance of MSMEs.		
4	Business model innovation through AI adaptation: The role of strategic human resources management (Roy et al., 2025) https://doi.org/10.1111/1467-8551.12894	British Journal of Management, 36, 546–559	51 companies in India; interviews with senior management.	Adaptive Structuration Theory; Strategic Human Resource Management.	Qualitative; interview; development of a 2×2 AI adaptation taxonomy.	AI adaptation; value appropriation; SHRM; business model innovation.	There are various forms of AI adaptation: exploitative, exploratory, emancipatory and expedient. SHRM determines how AI is adapted to generate value creation and business model innovation.	A strong conceptual contribution to AI and BMI, but the focus is not specifically on MSMEs, so it needs to be adapted when applied in an MSMEs context.	Expanding digital innovation from mere technology adoption to the adoption of AI requires strategic human resource readiness.
5	Harnessing disruptive innovation: A conceptual model for MSMEs growth and adaptation (Smuts et al., 2024) https://doi.org/10.3390/businesses4040041	Businesses, 4, 738–764	The literature on disruptive innovation in MSMEs; development of a conceptual model.	Disruptive innovation, strategic planning, business model innovation, value creation.	Automated content analysis; identification of 13 themes and 82 concepts.	Disruptive innovation; MSMEs growth; MSMEs adaptation; strategic alignment domains.	Disruptive innovation can be put into practice through customer insights, process efficiency, the use of technology, and access to value-creating resources. A conceptual	Useful as a conceptual framework, but has not yet empirically tested causal relationships.	It is well-suited to formulating adaptive business models for MSMEs in an era of disruption, as it emphasizes alignment between technology, the market and innovation capabilities.

No	Research Title and Author	Journal Volume	Context and Subject	Theoretical Framework	Methodology and Sample	Key Constructs	Main Findings	Critical Review and Limitations	Relevance
							model helps MSMEs turn disruption into opportunity.		
6	Distinctive capabilities system in MSMEs business model adaptation: Evidence of the moderating and mediating effect of adaptive capability (Arraya, 2025) https://doi.org/10.1108/CEMJ-11-2023-0438	Central European Management Journal, 33(2), 183–198	223 Portuguese MSMEs in the context of exogenous shocks.	Dynamic capabilities; adaptive capability; distinctive capabilities system.	Quantitative survey; CFA; structural equation modelling.	Distinctive capabilities system; adaptive capability; business model adaptation; financial and nonfinancial performance.	The distinctive capabilities system has a direct impact on both financial and non-financial performance; adaptive capability mediates non-financial performance. Reconfiguring capabilities enables the adaptation of business models in the event of a shock.	It is strong at linking capabilities to performance, but the Portuguese context needs to be compared with that of an emerging economy.	Emphasizing that an adaptive business model requires the ability to renew resources, routines and processes, not just technology.
7	Resilience and digital transformation : A small to medium enterprise resilience framework (Sagala & Öri, 2026) https://doi.org/10.1108/MD-05-2025-1470	Management Decision, 64(13), 126–161	A systematic literature review on digital transformation and MSMEs resilience.	Dynamic capabilities; resilience; digital transformation; business agility.	Systematic literature review; thematic analysis; development of a conceptual framework.	Digital transformation; leadership; strategic planning; strategic alignment; collaboration; learning; digital capability.	Digital transformation is a key driver of resilience, as it helps MSMEs leverage their resources and capabilities to foster agility and innovation.	It is highly relevant for developing a theoretical synthesis, but still requires cross-contextual empirical validation.	To serve as a key reference for explaining the mechanisms by which digital innovation influences the agility and innovation, as well as the resilience

No	Research Title and Author	Journal Volume	Context and Subject	Theoretical Framework	Methodology and Sample	Key Constructs	Main Findings	Critical Review and Limitations	Relevance
							on and business value.		and performance, of MSMEs.
8	Conceptualizing agile business practices for enhancing MSMEs resilience to economic shocks (Bamidele Micheal Omowole et al., 2024) https://doi.org/10.56781/ijssrr.2024.5.2.0049	International Journal of Scholarly Research and Reviews, 5(2), 70–88	A conceptual review of agile practices in MSMEs in response to economic shocks.	Agility, resilience-building frameworks, lean management, customer-centric agility.	Literature review conceptual.	Agile practices; adaptive decision-making; lean management; iterative product development; digital tools; cross-functional teams.	Agile practices enhance market responsiveness, reduce operational risks and ensure business continuity during a crisis. Digital tools and a customer-centric approach reinforce agility.	It is useful in practice, but the quality of the evidence depends on the sources reviewed and does not provide direct empirical testing.	Supporting the “adaptive business model” component through agile practices that MSMEs can adopt during times of disruption.
9	The effect of absorptive capacity and innovation strategy on Indonesian MSMEs’ performance with open innovation as the mediator (Arifin & Hartono, 2025b) https://doi.org/10.32479/irm.18431	International Review of Management and Marketing, 15(3), 343–351	200 MSMEs in Yogyakarta Province, Indonesia.	Absorptive capacity; innovation strategy; open innovation; MSMEs performance.	Quantitative; online and offline surveys; PLS-SEM.	Absorptive capacity; innovation strategy; open innovation; MSMEs performance.	Absorptive capacity enhances open innovation and the performance of MSMEs. Innovation strategy influences open innovation, but does not have a significant direct impact on performance; open innovation acts as a key	This is highly relevant to the Indonesian context; however, the geographical scope of Yogyakarta limits the applicability to Papua or other regions.	Providing local evidence that digital innovation and adaptive models require the capacity to absorb knowledge and open innovation practices in order to have an impact on performance.

No	Research Title and Author	Journal Volume	Context and Subject	Theoretical Framework	Methodology and Sample	Key Constructs	Main Findings	Critical Review and Limitations	Relevance
							mediator .		
10	Resilience of MSMEs in facing economic crises: Business model adaptation, product diversification , and resource optimization (Jayanto et al., 2025) https://doi.org/10.61100/adman.v3i1.260	Journal of Contemporary Administration and Management, 3(1), 616–623	Literature review on Indonesia; 34 relevant articles from Google Scholar and credible sources.	Organizational Resilience, Business Model Canvas, Resource-Based View.	Qualitative literature review; descriptive analysis.	MSMES resilience; business model adaptation ; product diversification; resource optimization; digital innovation .	MSMEs that adapt their business models to market dynamics tend to be more resilient. Product diversification can reduce risk, while optimizing resources can improve efficiency and competitiveness.	Relevant to the Indonesian context, but the selection procedures and quality of sources need to be refined to strengthen it as a systematic review.	Directly supports the adaptation of MSMEs business models through digital innovation , diversification and resource optimization.
11	Building organizational resilience in MSMEs: The key role of digital technologies, transformational leadership, and innovation (Martín-Rojas et al., 2026) https://doi.org/10.1007/s11846-025-00965-z	Review of Managerial Science	206 MSMEs in Spain.	Dynamic capabilities; organizational resilience; transformational leadership; innovation capability.	Quantitative; SEM.	Digital technologies; transformational leadership; innovation capability; organizational resilience; business performance.	Digital technologies and transformational leadership drive organizational resilience. Innovation capability is a key factor, and resilience has a direct impact on business performance.	The empirical model is robust, but the Spanish context may differ from that of MSMEs in developing countries in terms of digital capabilities and institutional support.	Explaining that the performance of MSMEs in the age of disruption depends on a combination of digital technology , transformational leadership, innovation , and resilience.

No	Research Title and Author	Journal Volume	Context and Subject	Theoretical Framework	Methodology and Sample	Key Constructs	Main Findings	Critical Review and Limitations	Relevance
12	The metamorphosis of organizational resilience: A strategic roadmap for MSMEs in the digital age (Malik & Terzidis, 2026) https://doi.org/10.1007/s11846-026-01002-3	Review of Managerial Science	76 peer-reviewed studies from 2020 to 2025.	Organizational resilience; TCCM; multilevel dynamic capability; digital transformation; GVC.	Hybrid SLR; bibliometric mapping; TCCM framework.	Adaptive leadership; digital transformation; collaboration; agility; digital reconfiguration; resilience.	The resilience of MSMEs is multilevel and dynamic: it is influenced by individual, organizational, and inter-organizational factors. Adaptive leadership, digital transformation, and collaboration are key enablers.	It is a very robust conceptual framework; longitudinal empirical studies are needed to examine the process of resilience transformation.	To provide a roadmap for your article: an adaptive business model should be viewed as a cross-level transformation process, not a static state.
13	Strategic agility—An urgent capability for successful business model innovation? A conceptual process model and theoretical framework (Mueller-Saegebrecht & Walter, 2025) https://doi.org/10.1002/jsc.2645	Strategic Change, 34, 407–428	Literature on strategic agility and BMI in a dynamic environment.	Strategic agility; dynamic capabilities; BMI process.	Theorizing approach; development of a conceptual process model and theoretical framework.	Strategic sensitivity; leadership unity; resource fluidity; digital capabilities; market dynamism; BMI stages.	The three meta-capabilities of strategic agility: strategic sensitivity, leadership unity, and resource fluidity facilitate the BMI stages: initiation, ideation, integration, and implementation. Digital capabilities serve as enabling factors.	The theoretical framework is very useful, but it requires empirical testing among MSMEs and in developing countries.	Provides a conceptual foundation for explaining how MSMEs build adaptive business models through agility and digital capabilities.

No	Research Title and Author	Journal Volume	Context and Subject	Theoretical Framework	Methodology and Sample	Key Constructs	Main Findings	Critical Review and Limitations	Relevance
14	Digital technologies and business model innovation in turbulent markets: Unlocking the power of agility and absorptive capacity (Abuseta et al., 2025) https://doi.org/10.3390/su17125296	Sustainability, 17(12), 5296	479 senior managers from manufacturing MSMEs in Turkey's three major industrial cities.	Organizational adaptation theory; dynamic capability view.	Quantitative survey; mediation and moderation models.	Digital technologies; business model innovation; firm agility; absorptive capacity; market turbulence.	Digital technologies have a significant positive impact on BMI. Firm agility and absorptive capacity partially mediate this relationship. Market turbulence amplifies the impact of digital technologies on agility.	While providing a clear model of the mechanism, Turkey's manufacturing focus needs to be adapted to the characteristics of Indonesia's service and trade MSMEs.	It is particularly relevant to conclude the main argument: digital innovation enhances adaptive business models through agility and absorptive capacity in turbulent markets.

Source: Literature review (2026)

Table 2: Thematic Synthesis of the Literature Review

No	Synthesis Theme	Related Articles	Theoretical Significance	Implications for the Article	Critical Synthesis Statement
1	Digital innovation as an enabler of adaptive capabilities	Sagala & Ori (2026); Martín-Rojas et al. (2026); Abuseta et al. (2025); Alake et al. (2024)	Digital technology does not automatically improve performance; its impact is realized through digital capability, leadership, innovation capability, agility, and absorptive capacity.	The discussion section should frame digital innovation as a mechanism for building capabilities, not merely as the use of applications or technology.	The literature suggests that digitalization is effective when MSMEs are able to integrate technology with their processes, human resources, knowledge, and strategic decisions.
2	Business model innovation or adaptation in response to disruption	Smuts et al. (2024); Arraya (2025); Jayanto et al. (2025); Mueller-Saegbrecht & Walter (2025)	An adaptive business model is the process of reconfiguring value creation, value delivery, and value capture in the face of uncertainty.	The article can outline an adaptive business model as the result of a combination of digital innovation, strategic agility, and resource optimization.	The crisis is driving MSMEs to change their channels, processes, products, and use of resources; however, meaningful adaptation requires strategic direction, not merely reactive changes.

No	Synthesis Theme	Related Articles	Theoretical Significance	Implications for the Article	Critical Synthesis Statement
3	Resilience and agility as a pathway to MSMEs performance	Hortovanyi & Szepesi (2026); Omowole et al. (2024); Malik & Terzidis (2026); Martín-Rojas et al. (2026)	Resilience isn't just about surviving; it's the ability to bounce back and move forward through learning, collaboration, and transformation across all levels.	Any discussion of MMSMES performance should cover both financial and non-financial aspects, such as business continuity, market response, innovation, and competitiveness.	Agile and resilient MSMEs are better able to turn disruption into opportunity, so that performance stems from their capacity for continuous adaptation.
4	Absorptive capacity and open innovation as knowledge mechanisms	Arifin & Hartono (2025); Abuseta et al. (2025); Ndlovu et al. (2025)	The ability to absorb, process, and apply external knowledge strengthens the impact of innovation strategies on performance.	Article suggests that digital innovation requires support through external learning and collaboration, particularly for MSMEs with limited resources.	The performance of MSMEs is influenced not only by internal innovation strategies, but also by their ability to tap into external sources of knowledge and translate them into market innovations.
5	The Role of Leadership and Strategic Human Resources in Digital Transformation	Roy et al. (2025); Martín-Rojas et al. (2026); Malik & Terzidis (2026)	AI and digital transformation require human readiness, leadership, and governance to deliver value.	The article can incorporate a human/leadership dimension as a requirement for an adaptive business model for MSMEs.	The digital transformation of MSMEs should be viewed as a socio-technical change: technology only becomes valuable when combined with human capital, leadership, and a culture of learning.

Source: Literature review (2026)

Table 3: Research Agenda Gap

No	Literature Gap	Evidence from the Article	Opportunities to Contribute Articles	Research Objectives/Conceptual Framework
1	Some studies still treat digital innovation, business model adaptation, and MSMEs performance as separate categories.	Ndlovu et al. (2025) note that only a small number of studies explicitly link business models to MMSMES performance.	The article can bring these three domains together within a single integrated conceptual framework.	Digital innovation → adaptive capabilities/agility/ACAP → adaptive business models → MSMEs performance.

2	Empirical evidence on emerging economies is not yet comprehensive, and the context regarding Indonesia and Papua remains limited.	Arifin & Hartono (2025) provide data from Indonesia, but only from Yogyakarta; several other studies come from Nigeria, Turkey, Portugal, Spain, and India.	The article highlights the need for contextualization regarding MSMEs in Eastern Indonesia/Papua in future research.	The state of infrastructure, market access, digital literacy, and local institutions moderate the effectiveness of digital innovation.
3	Digitalization is often treated as a technological input rather than a process of reconfiguring business models.	Abuseta et al. (2025) and Sagala & Óri (2026) emphasize the mediating role of agility, ACAP, and digital capability.	The article needs to distinguish between technology adoption and strategic digital innovation.	The impact of technology on performance is indirect and depends on capability building.
4	Resilience is often understood as survival, not long term transformation.	Malik & Terzidis (2026) and Hortovanyi & Szepesi (2026) view resilience as a process of metamorphosis or upgrading.	The article highlights the focus on the “bouncing forward” approach and the upgrading of MSMEs.	Disruption can serve as a catalyst for learning, repositioning, and updating the value proposition.
5	People, leadership, and a culture of learning have not always been incorporated into digital models for MSMEs.	Roy et al. (2025), Martín-Rojas et al. (2026), and Malik & Terzidis (2026) highlight the importance of SHRM/adaptive leadership.	The article can incorporate the aspect of human agency to ensure the model is not overly technocentric.	Adaptive leadership and human capital capabilities strengthen the link between digital innovation and adaptive business models.

Source: Literature review (2026)

DISCUSSION

The results of the literature review indicate that digital innovation, MSMEs performance, and adaptive business models are three interrelated concepts in explaining the ability of MSMEs to survive and thrive in an era of disruption. Market disruption, changes in consumer behavior, economic crises, and technological pressures require MSMEs not only to adopt digital technologies but also to transform how they create, deliver, and capture business value. Thus, digital innovation cannot be understood merely as the use of social media, marketplaces, digital payments, or operational applications, but rather as a strategic process that drives business model renewal.

The literature indicates that digital technology plays a crucial role in driving business model innovation as it can enhance efficiency, strengthen decision making, expand market access, and create new value propositions. However, the impact of digital technology on business model

innovation is not automatic. Findings indicate that the influence of digital technology on business model innovation is mediated by firm agility and absorptive capacity; thus, the benefits of digitalization heavily depend on an organization's ability to act swiftly, absorb external knowledge, and adapt to market turbulence (Abuseta et al., 2025).

These findings confirm that the performance of MSMEs is determined not only by the level of technology adoption, but also by their ability to transform technology into business capabilities. The performance of MSMEs must be understood in a multidimensional way, encompassing financial aspects such as increased revenue, profitability, and efficiency, as well as non-financial aspects such as innovation capacity, competitiveness, customer satisfaction, and responsiveness to market changes. Findings regarding absorptive capacity and innovation strategies can enhance MSMEs performance through open innovation as a mediator. This means that the ability to absorb and utilize external knowledge is a critical factor in improving MSMEs innovation and competitiveness (Arifin & Hartono, 2025b).

In this context, adaptive business models serve as the primary bridge between digital innovation and MSMEs performance. Adaptive business models reflect MSMEs ability to adjust their value propositions, distribution channels, customer relationships, cost structures, revenue sources, core activities, and partnerships in response to environmental changes. Such adaptation can be achieved through digital marketing, enhanced customer service, product diversification, operational efficiency, and the utilization of business networks. Findings regarding the resilience of MSMEs in facing crises can be reinforced through business model adaptation, product diversification, and resource optimization (Jayanto et al., 2025).

In addition to adaptive business models, the review's findings also highlight the importance of resilience and agility as connecting mechanisms. Resilient MSMEs are not only able to survive disruptions but also capable of learning, transforming, and building new competitive advantages after facing pressure. Therefore, it has been previously emphasized that MSMEs resilience is a multilevel process involving adaptive leadership at the individual level, digital reconfiguration and agility at the organizational level, and collaboration at the inter-organizational level (Malik & Terzidis, 2026).

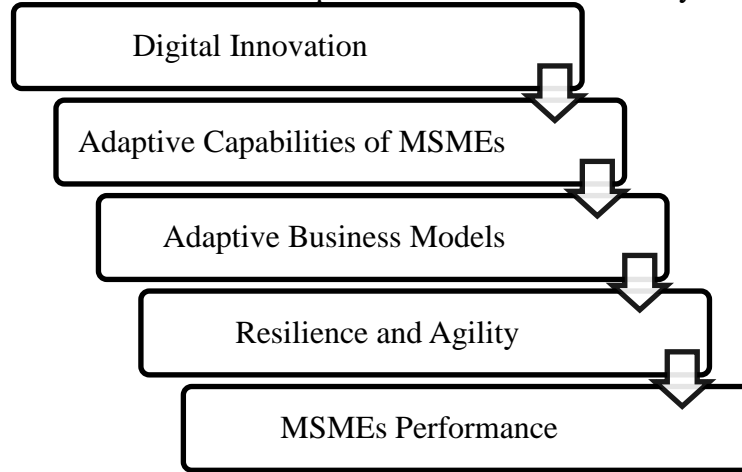
Thus, MSMEs resilience cannot be built solely through technology ownership but through a combination of leadership, organizational learning, collaboration, and the ability to manage change. Other research findings also emphasize that digital transformation can strengthen the business capabilities of MSMEs, enhance adaptability and agility, and foster the emergence of new business models better suited to crisis conditions and uncertainty (Sagala & Óri, 2026).

Theoretically, this discussion reinforces the relevance of the Dynamic Capabilities View, the Resource-Based View, Organizational Resilience Theory, and Business Model Innovation Theory. Dynamic capabilities explain the ability of MSMEs to recognize changes, seize opportunities, and reconfigure resources to remain competitive. Meanwhile, the Resource-Based View emphasizes the importance of managing unique resources, whether in the form of knowledge, networks, technology, or human capabilities. Within this framework, digital technology will only generate value if integrated with organizational capabilities and adaptive business models.

Furthermore, a synthesis of various studies indicates that the relationship between digital innovation and MSMEs performance is gradual. Digital technology first serves as a catalyst for change. Subsequently, this technology must be converted through adaptive capabilities such as firm agility, absorptive capacity, innovation capability, adaptive capability, and managerial

competence. These capabilities then drive business model innovation, strengthen resilience, and ultimately contribute to improved MSMEs performance. This relationship pattern can be summarized as follows:

Figure 1: Illustrates the conceptual framework of this study



Source: Literature review (2026)

Digital innovation is positioned as the initial driver that enables MSMEs to strengthen their adaptive capabilities, such as agility, absorptive capacity, innovation capability, managerial capability, and digital capability. These capabilities support the development of adaptive business models through the reconfiguration of value creation, value delivery, and value capture mechanisms. Subsequently, adaptive business models enhance resilience and agility, enabling MSMEs to respond more effectively to environmental turbulence. Ultimately, these processes contribute to improved MSMEs performance, both in financial and non-financial dimensions.

However, this review also identified several gaps in the literature. First, some studies still treat digitalization as a variable that directly influences performance, even though this relationship is heavily influenced by internal capabilities and external conditions. Second, research on MSMEs still largely relies on financial performance metrics, while non-financial indicators such as resilience, innovation, customer loyalty, organizational learning, and business networks have not been extensively developed. Third, the context of developing countries still requires greater attention because MSMEs in these regions face constraints in capital, digital literacy, infrastructure, and access to innovation networks.

Based on this discussion, it can be affirmed that digital innovation is a critical factor in enhancing MSMEs performance, but its success heavily depends on the MSMEs ability to develop adaptive business models. MSMEs capable of integrating digital technology with adaptive leadership, organizational learning, external collaboration, and flexible resource management will be better prepared to face disruption. Therefore, digital innovation should not be positioned as an end goal, but rather as a strategic instrument to strengthen adaptive capabilities, build resilience, and improve MSMEs performance sustainably.

RECOMMENDATIONS

Based on the results of this literature review, several recommendations can be made for MSMEs operators, the government, business mentors, and future researchers.

First, MSMEs need to view digital innovation as a business strategy, not merely the use of technological tools. The utilization of social media, marketplaces, digital payments, financial record-keeping applications, and customer service systems should be directed toward strengthening value propositions, expanding markets, increasing efficiency, and improving customer relationships. Thus, digitalization does not stop at technical activities but becomes part of business model renewal.

Second, MSMEs need to strengthen their adaptive capabilities. The ability to read market changes, understand consumer behavior, absorb external knowledge, make quick decisions, and manage resources flexibly are critical factors in navigating disruption. MSMEs with strong adaptive capabilities will be better positioned to turn environmental pressures into opportunities for innovation.

Third, MSMEs need to develop more flexible and responsive business models. Business model adaptation can be achieved through product diversification, a combination of offline and online sales channels, enhanced customer service, cost efficiency, collaboration with partners, and the creation of new revenue streams. Adaptive business models enable MSMEs to remain relevant in the face of shifts in demand, competitive pressures, or economic crises.

Fourth, the government and supporting institutions need to strengthen the MSMEs digital ecosystem. Support should not be limited to training on app usage but must also include digital business literacy, financial management, customer data analysis, digital marketing strategies, business protection, and access to financing. Support must also be tailored to regional characteristics, business types, and the digital readiness level of MSMEs.

Fifth, collaboration between MSMEs, universities, the government, the business community, and digital platforms needs to be strengthened. Collaboration can help MSMEs acquire new knowledge, expand market networks, improve product quality, and access resources that are difficult to obtain independently. In the context of open innovation, openness to external sources of knowledge is one of the keys to improving MSMEs performance.

Sixth, future research should develop empirical models that test the relationship between digital innovation, adaptive capabilities, adaptive business models, resilience, and MSMEs performance. This literature review indicates a strong conceptual relationship, but empirical testing is still needed, particularly for MSMEs in developing countries and regions with limited digital infrastructure.

Seventh, future research needs to expand the performance indicators for MSMEs. Performance should not only be measured through turnover, profit, or sales growth, but also through non-financial indicators such as innovation capacity, customer loyalty, business resilience, adaptability, network strengthening, and business sustainability.

CONCLUSION

The results of the literature review indicate that digital innovation plays a strategic role in driving performance improvements among MSMEs in the era of disruption. However, the impact of digital innovation is not automatic. New digital technologies can deliver value only if MSMEs are able to integrate them into their business processes, marketing strategies, customer relationships, decision-making, and business model updates.

This discussion emphasizes that an adaptive business model is a crucial mechanism linking digital innovation to MSMEs performance. MSMEs that can adapt their value propositions, distribution channels, cost structures, revenue streams, core activities, and partnerships will be better prepared to navigate environmental changes. With an adaptive business model, digital technology becomes not merely an operational tool but a strategic instrument for creating new value and enhancing competitiveness.

In addition, adaptive capabilities, absorptive capacity, open innovation, resilience, and agility are key factors in strengthening the relationship between digital innovation and MSMEs performance. MSMEs that are able to learn from their external environment, collaborate with various parties, respond quickly to change, and manage resources flexibly have a greater chance of surviving and thriving amid uncertainty.

Theoretically, this study reinforces the relevance of the Dynamic Capabilities View, Resource-Based View, Organizational Resilience Theory, and Business Model Innovation Theory in explaining MSMEs adaptation in the digital era. Practically, this study underscores that MSMEs digitalization must be directed toward building business capabilities, not merely toward technology adoption.

Thus, it can be concluded that digital innovation is a key driver of MSMEs performance, but its success is largely determined by the MSMEs ability to build business models that are adaptive, resilient, and grounded in organizational capabilities. Therefore, MSMEs need to develop strategic thinking, strengthen digital competencies, foster collaboration, and continuously update their business models to survive and grow in the era of disruption.

LIMITATIONS

This study is limited to a literature review approach; therefore, future research should empirically test the proposed conceptual framework across different MSME sectors and regional contexts, particularly in developing economies.

Conflicts of Interest

The authors have disclosed no conflicts of interest.

Author's Affiliation

Yohanis Rante¹ Roman Philander Lagaronda² Indra Eka Wardana Toii³ Alfani Laura Harikedua⁴

^{1,3,4} Universitas Cenderawasih, Jayapura, Indonesia

² Universitas Ottow Geissler Papua

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