

Customer tech savviness, business partner, and marketing performance: Mediating role of business model innovation

Nina Fapari Arif^{1*}, Muhamad Ridwan², Siti Khusnul Rifani³, Riria Zhandy Mirahati⁴

^{1,2,3,4} Universitas Pembangunan Nasional Veteran, Yogyakarta, Indonesia

nina.fapari@upnyk.ac.id

*Corresponding Author

ARTICLE INFORMATION

Article History

Received: 19-12-2025

Revised: 08-05-2026

Accepted: 24-05-2026

Published: 01-06-2026

Keywords

Marketing Performance;
Business Model Innovation;
Customer Tech Savviness;
Business Partner.

ABSTRACT

Small and medium-sized enterprises are increasingly required to adapt to customers' tech-savviness and foster strong collaborative alliances with business partners to sustain effective marketing outcomes. This investigation seeks to explore the impact of customer technological savviness, collaborative efforts with business partners, innovation in business models, and effective marketing strategies. Furthermore, it examines the mediating role of business model innovation in the relationship between external influencers and marketing outcomes. A quantitative research design was adopted, employing partial least squares structural equation modeling to analyze data gathered from 187 small and medium-sized enterprises in the Indonesian food and beverage industry, selected through purposive sampling. Marketing performance is driven by customers' tech-savviness and business model innovation, but not by business partners. Furthermore, both customer tech-savviness and business partners drive business model innovation. Business model innovation bridges the gap, allowing both customers' tech-savviness and business partners to drive marketing performance. These findings underscore the pivotal mediating role of business model innovation as a strategic mechanism that translates digital readiness and partnership strength into superior marketing outcomes. This study contributes to the literature on the digital transformation of small and medium-sized enterprises by providing empirical evidence of the mediating role of business model innovation in emerging markets. It expands upon current research by framing customer tech savviness and collaboration with business partners as essential external facilitators of innovation-driven marketing performance. The findings have practical implications for managers seeking to capitalize on digital customer capabilities and collaborative networks to achieve sustainable competitive advantages.

This article has open access under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



1. Introduction

Digital transformation is essential for micro, small, and medium enterprises (MSMEs) to maintain competitiveness and achieve long-term sustainability. It improves operational efficiency, innovation, and market adaptability, significantly reshaping the competitive landscape in global markets (Almajali & Allah, 2025). Platform-based digital ecosystems have evolved, impacting consumer behavior and competitive dynamics. This ecosystem manages attention and the information economy, highlighting the need for multidisciplinary research to understand its implications in developing regions (Banerjee et al., 2024).

MSMEs account for more than 61% of gross domestic product and employ more than 97% of the workforce, highlighting their important role as the backbone of the national economy and their significance in providing essential goods and services (Sinha et al., 2024). The MSME sector, with its large number of business units, is essential for sustaining economic growth and social stability. MSMEs' contributions are widely acknowledged, highlighting their strategic importance in promoting innovation and benefiting the economy both economically and socially (Neagu, 2016). MSMEs face challenges in digital transformation, including limited resources, skills gaps, and resistance to change. Leveraging external support, developing employee skills, and fostering a culture of innovation are important strategies for achieving sustainable competitive advantage in the digital age (Li et al., 2025).

Digital marketing plays a crucial role in optimizing customer interactions and expanding sales markets, as highlighted in the research paper. It enables businesses to adapt their marketing strategies to meet the selective preferences of modern consumers, who prioritize specific product features and expect diverse choices (Biemans, 2023). By implementing effective digital marketing strategies, companies can enhance their marketing performance, ultimately leading to increased sales, market share, and profitability, especially in a competitive environment marked by challenges such as global instability (Solntsev et al., 2023).

The research highlights that digital marketing strategies significantly enhance consumer interactions and expand market reach, ultimately strengthening customer loyalty (Ijomah et al., 2024). As modern consumers become more selective, businesses must adapt their marketing approaches to engage consumers in decision-making effectively. The study identifies challenges such as platform algorithm changes and digital fatigue, emphasizing the need for companies to implement adaptive strategies to optimize marketing performance and increase sales, market share, and profitability in a competitive landscape (Kamyabi et al., 2025).

However, challenges such as limited digital literacy and time constraints can hinder the effective implementation of these strategies (Kumar, 2025). The role of e-commerce also shows a positive and significant influence on marketing performance, as proven research on food and beverage MSMEs in Surabaya, East Java, Indonesia, confirms the importance of utilizing digital platforms in improving overall marketing results (Adistia & Sanaji, 2022). Furthermore, improving marketing performance in MSMEs depends not only on technology adoption but also on the strategic alignment among technology, organizational, and environmental factors. This emphasizes the importance of organizational readiness as well as the influence of the external environment in achieving optimal marketing performance.

Customers' technological expertise significantly influences the digital transformation process in MSMEs. Customers with strong digital skills tend to be more comfortable engaging in online interactions and digital transactions and adopting various service innovations, thereby improving their overall experience and satisfaction (Ravikumar, 2025). Furthermore, customer readiness, influenced by optimism and innovation, positively influences e-commerce adoption readiness in MSMEs, consistent with previous studies

showing a positive relationship between customer technology readiness and e-commerce adoption (Pahlawansah et al., 2023). Furthermore, technology-savvy customers significantly enhance online customer engagement by facilitating seamless digital transactions and interactions across multiple platforms. Their familiarity with technology allows businesses to implement effective engagement strategies that resonate with these customers. This increased engagement not only strengthens customer relationships but also contributes to long-term business success in the digital era.

Understanding the motivations and behaviors of these customers is crucial for businesses aiming to thrive in the evolving online landscape (Chaurasia & Parmar, 2023). Nevertheless, despite the optimism shown by some customers for digital technology, there are still various obstacles, such as limited internet access, low digital literacy, and concerns about data misuse, which hinder the real adoption rate. This suggests a gap between technological readiness and psychosocial preparedness, particularly in regions with limited infrastructure (Santoso, 2025). On the other hand, technology savviness is seen as an important managerial tool in creating sustainable competitive advantages in MSMEs. However, studies specifically discussing customer tech savviness and its direct influence on company performance through strategic channels remain limited, indicating research gaps warranting further study (Bayer, 2025).

Competency building in supplier relationships is an important factor in improving the relational capabilities of MSMEs, ultimately impacting operational effectiveness and supply chain efficiency. Strong collaboration with business partners enables intensive knowledge sharing, which is instrumental in driving supply chain innovation and improving overall business results. Competence development is crucial in supplier development projects, particularly for MSMEs. By enhancing purchasing and supply management skills, MSMEs can improve their relational capabilities, leading to better operational effectiveness and supply chain efficiency. Strong collaboration with business partners facilitates intensive knowledge sharing, which is essential for driving supply chain innovation and improving overall business results. This innovative approach to knowledge transfer is vital for the adoption of new practices among 3rd, 4th, and 5th-tier suppliers (Rasdien et al., 2024). In line with this, strategic partnerships and collaboration in the digital ecosystem contribute to increasing the organizational agility and competitiveness of MSMEs, especially when technology adoption is aligned with these partnership relationships to promote operational efficiency and sustainable innovation (Chen & Sumartono, 2024).

Furthermore, collaborative networks significantly impact the innovation capabilities of MSMEs by facilitating the exchange of knowledge and expertise among suppliers, customers, competitors, and research organizations. This collaboration enhances innovation output, enabling MSMEs to develop new products and solutions more effectively. As a result, these networks contribute to improved business performance and competitive advantage, allowing MSMEs to respond swiftly to market demands and leverage shared resources for optimal outcomes, ultimately fostering sustainable performance (Muchtar et al., 2022). However, collaboration with business partners does not always translate directly into business performance; it depends on the quality of the relationships established and their market orientation. Therefore, strengthening high-quality, market-orientation-based relationships is key in creating relational competitive advantages that ultimately improve the marketing performance of MSMEs (Sitaniapessy & Huwae, 2023).

Business model innovation is a crucial factor for MSMEs in redesigning the logic of value creation and capture, enabling them to adapt to technological developments and changes in consumer preferences and to increase competitiveness in the digital era (Kardana et al., 2025). Business model innovation enables MSMEs to integrate multiple digital strategies, optimize distribution channels, and develop diverse revenue streams, ultimately

increasing operational agility, customer engagement, and competitive advantage (Pasha, 2023).

Correspondingly, business model innovation significantly enhances competitive advantage, scalability, and long-term profitability, contributing to overall business success in the digital economy. The research highlights that effective innovation drives new revenue streams and operational efficiencies while enhancing customer value. Key drivers such as digitalization and evolving consumer preferences necessitate a customer-centric approach, enabling organizations to adapt and thrive amidst dynamic market pressures. Embracing these innovations is essential for sustaining competitiveness and achieving enduring growth in today's rapidly changing business landscape (Kumar, 2025). Nevertheless, business model innovation not only acts as a direct predictor of performance, but also as a mediation mechanism that links various external factors with marketing results, thus serving as a strategic bridge in improving MSME performance (Najmaei et al., 2017).

In the context of increasingly dynamic competition and rapid changes in consumer preferences, the effectiveness of supply chain management, the utilization of digital marketing, and product development are important factors in improving the performance and competitiveness of MSMEs (Earnshaw, 2023). Digitalization significantly transforms business processes by optimizing operations, enhancing labor productivity, and improving the quality of management decisions. The implementation of online ordering systems, digital payment methods, and social media promotion exemplifies how digital solutions can strengthen organizational competitiveness. The study highlights that while digitalization offers substantial benefits, challenges remain, particularly in developing digital competencies and ensuring cybersecurity. Overall, these transformations are crucial for the effectiveness and sustainability of modern organizations in the digital economy (Garbuzova et al., 2025).

In addition, customers' technological sophistication and collaboration with business partners play important roles in improving MSME performance. High-quality relationships, supported by effective collaboration and technology (e-collaboration), can create a relational competitive advantage that improves business performance (Sitaniapessy & Huwae, 2023). However, there are still gaps in empirical studies that integrate these key variables in a comprehensive mediation framework for MSMEs in Indonesia. Most previous studies have taken a quantitative approach and focused on specific sectors, so a more thorough study is needed to explore the effects of integrated mediation and to address regional and methodological gaps in the existing literature (Muis, 2025).

From the perspective of dynamic capability theory (DCT) as articulated by Teece (2018), which complements the resource-based view (RBV) as articulated by Barney (1991), MSMEs must be able to leverage dynamic capabilities to manage and accumulate heterogeneous resources and adapt to changes in the business environment. This approach allows MSMEs to flexibly reconfigure internal and external resources, to achieve efficiency while increasing risk resilience (Wang, 2025). Within this theoretical framework, customer tech savviness and collaboration with business partners are external strategic assets. However, it emphasizes that dynamic capabilities, such as detection, value capture, organization, and reconstruction, positively influence business model innovation, which in turn enhances technological innovation performance. The integration of these capabilities is crucial for MSMEs to adapt and maintain competitiveness in a dynamic business environment, aligning with the need for strategic vision and market orientation (Phong & Tam, 2024).

The study emphasizes that adaptive selling capability, integrated with value-based selling, and sales interaction quality play a key role in improving MSME marketing performance by enabling firms to respond effectively to diverse customer needs and dynamic market conditions, thereby strengthening customer relationships, satisfaction, and

loyalty (Saputra & Ariningsih, 2025). In this context, business model innovation serves as a mediating mechanism linking external stimuli to marketing performance, particularly in emerging markets (Sukania et al., 2024). However, MSMEs still face challenges, including limited digital literacy, infrastructure gaps, and data security concerns, that hinder digital transformation (Natalia et al., 2025). Moreover, both customer tech savviness and collaboration with business partners contribute to marketing performance, often indirectly through digital readiness and innovation. In contrast, digital entrepreneurial marketing further enhances competitiveness by aligning internal capabilities and external partnerships with sustainability and industry upgrading (Nurbasari et al., 2026).

Among the various MSME sectors in Indonesia, the food and beverage (F&B) industry is one of the largest and most dynamic, contributing significantly to employment creation, local economic development, and household income generation. The sector has experienced rapid changes in consumer preferences, increasing digital adoption, and intense market competition, particularly after the expansion of e-commerce platforms, online food delivery services, and social media marketing channels (Earnshaw, 2023). F&B MSMEs are highly dependent on customer interactions, digital engagement, and collaborative relationships with suppliers, distributors, and digital platform providers. Consequently, the sector provides an appropriate context for examining how customer tech savviness and business partner collaboration contribute to marketing performance through business model innovation. Furthermore, the F&B industry faces continuous pressure to innovate products, services, and business processes in response to evolving consumer expectations and technological advancements, making it an ideal setting for investigating the proposed research model (Adistia & Sanaji, 2022; Gao et al., 2023).

Based on the identified theoretical and empirical gaps, this study aims to examine the influence of customer tech savviness and business partner collaboration on marketing performance among Indonesian food and beverage MSMEs. In addition, this study investigates the role of business model innovation as a mediating mechanism that translates customer technological readiness and collaborative relationships into superior marketing outcomes. By focusing on the food and beverage sector, this research contributes to the dynamic capability theory literature and provides practical insights into how MSMEs can leverage digital customer capabilities and strategic partnerships to strengthen competitiveness and marketing performance in the digital era.

2. Literature Review and Hypothesis Development

2.1. Literature Review

2.1.1. Dynamic Capability Theory

Dynamic capabilities are the capacity of MSMEs to integrate, develop, and reconfigure internal and external competencies in responding to rapid environmental changes. Strengthening this capability, especially when combined with technological competence, has been shown to improve performance among MSMEs by enhancing adaptability to market trends, customer needs, and competitive dynamics, thereby opening new business opportunities (Guzairy et al., 2024). In this regard, the dynamic capability theory (DCT) by Teece (2018) emphasizes the importance of strategic flexibility and sustainable adaptation as key sources of competitive advantage, complementing the resource-based view (RBV) by Barney (1991) approach, which focuses more on characteristics valuable, scarce, difficult to replicate, and irreplaceable resources, but tends to be static (Sun et al., 2024).

Furthermore, dynamic capabilities are crucial for MSMEs, particularly in adapting, integrating, and reconfiguring resources to navigate uncertainty and environmental changes (Sharabati et al., 2024). The research aims to develop

concrete indicators for measuring dynamic capabilities, focusing on their organizational realities and operational contexts, thereby facilitating effective responses to market opportunities and enhancing competitive advantages (Maycotte et al., 2025). In a digital context characterized by technological disruption and shifts in consumer behavior, MSMEs need to develop capabilities such as readiness for digital technology, adoption of digital financial services, and strengthened organizational capabilities.

The resilience of MSMEs depends not only on technology, but also on the ability to align internal resources with an enabling institutional and policy environment, creating a sustainable adaptive process (Pandey, 2026). In addition, strengthening dynamic capabilities in MSMEs can be supported through strategic partnerships and the use of technology to analyze customer behavior. By leveraging customer data, MSMEs can personalize services, enhance transparency, and integrate communication channels. This customer-centered approach facilitates effective adjustments to business strategies and fosters closer interactions with customers via digital platforms. Ultimately, these practices contribute to improved performance and competitiveness, enabling MSMEs to adapt swiftly to changing market demands and customer expectations in the digital era (Li et al., 2025).

The study shows that external drivers, such as customers' technological sophistication and collaboration with business partners, indirectly influence organizational adaptation in MSMEs. Their impact on marketing performance depends on MSMEs' ability to leverage these external inputs through business model innovation, a dynamic capability considered advanced. This integration of external factors with internal capabilities is crucial for enhancing overall marketing performance, particularly in navigating the complexities of a rapidly changing business environment (Dwivedi & Pawsey, 2023). Therefore, DCT by Teece (2018) provides a solid theoretical foundation for explaining how MSMEs can transform digital readiness and collaborative advantage into improved marketing performance through a continuous process of adaptation and innovation.

2.1.2. Marketing Performance

Concept marketing performance refers to the capacity of MSMEs to formulate, execute, and assess marketing strategies to achieve predetermined organizational objectives. An effective marketing strategy positively impacts market performance. However, its management is a challenge in itself because it requires proper formulation, implementation, and evaluation, and it involves various functions across the organization, not only the marketing department (Agyemang, 2016). Furthermore, greater alignment between marketing practices and business strategy leads to improved firm performance, including increased market share, sales, and profitability.

Specifically, product or service quality is identified as the marketing practice most strongly associated with performance. Additionally, the return on sales and return on advertising metrics are highlighted as significant performance indicators, supporting the notion that effective marketing strategies enhance overall business outcomes in MSMEs (Gao et al., 2023). In the digital landscape, MSMEs can improve marketing performance by using community-based digital strategies. Active interaction and personalized content presentation can encourage customer engagement, trust, and loyalty. The shift from a transactional marketing approach to engagement-focused communication via social media and interactive platforms

enables MSMEs to build more meaningful customer relationships, thereby supporting long-term marketing success (Diana & Haldy, 2026).

From a dynamic capabilities perspective, marketing performance is strongly influenced by MSMEs' ability to adapt their marketing functions sustainably in changing environments. This adaptive capability enables cross-functional integration of knowledge and processes, supporting the creation and delivery of superior customer value. Dynamic marketing capabilities, through increased responsiveness and knowledge integration, contribute significantly to business sustainability and competitive advantage (Supriyanto et al., 2024). Correspondingly, entrepreneurial orientation plays an increasing role in the effectiveness of digital marketing, with agile marketing capabilities as a mediator that strengthens these relationships. It confirmed that flexibility and responsiveness are key factors in improving the marketing performance of MSMEs in a dynamic business environment (Ilyas et al., 2025).

2.1.3. Business Model Innovation

Business model innovation is a strategic approach that enables MSMEs to create, deliver, and capture value in response to technological changes, market dynamics, and evolving customer preferences. Internal factors such as organizational innovation culture and entrepreneurial orientation, along with external pressures including competition and digital transformation, encourage MSMEs to develop new revenue sources, improve customer relationships, and strengthen competitive differentiation (Kwak et al., 2025; Salsabila et al., 2025). For MSMEs, business model innovation is particularly important in overcoming resource limitations, enhancing resilience, and achieving sustainable growth in uncertain business environments (Mashingaidze, 2025). In addition, dynamic capabilities strengthen the relationship between business model innovation and organizational performance, as innovation not only supports strategic adaptability but also improves operational efficiency, customer experience, and long-term competitive advantage (Tavassoli & Bengtsson, 2018).

2.1.4. Customer Tech Savviness

Consumer behavior in the digital era is strongly influenced by customer tech savviness, as technologically skilled consumers are more adaptable to digital environments and more active in engaging with online content and digital transactions (Gupta, 2021). In the context of MSMEs, customer tech savviness becomes an important external factor that encourages the adoption of e-commerce and the effective use of digital platforms, ultimately helping businesses expand market reach and improve marketing performance (Salah & Ayyash, 2024). Furthermore, digitally literate customers are generally more responsive to personalized digital marketing strategies and targeted communication, which increases online engagement, brand visibility, and purchase intention (Deviroshini et al., 2025). Therefore, customer tech savviness can be considered a strategic driver that significantly enhances the effectiveness of digital marketing and overall marketing performance in the digital era.

2.1.5. Business Partners

Collaboration and strategic partnerships are important factors for MSMEs in improving competitiveness and business sustainability. Through partnerships, MSMEs can leverage shared strengths, access broader resources, and gain

complementary capabilities to support business development and innovation. Collaboration also facilitates knowledge exchange, risk sharing, and shared value creation, enabling MSMEs to adapt more effectively to globalization and rapid technological change (Selvakumar et al., 2025). Furthermore, partnerships built on trust and relational contracts strengthen strategic alliances and encourage transparent cooperation among MSMEs. These collaborative relationships improve innovation, business performance, and adaptability in competitive digital environments, ultimately supporting sustainable growth and stronger market positioning (Seepana et al., 2022).

2.2. Hypothesis Development

2.2.1. The Effect of Customer Tech Savviness on Marketing Performance

Customer tech savviness positively influences marketing performance and e-commerce adoption in MSMEs by enabling more effective interaction with digital platforms, improving responses to online marketing, and facilitating smoother communication with customers (Kurniawan & Prihandono, 2025). Higher levels of digital literacy also encourage greater online shopping engagement and support the development of digital commerce ecosystems (Mahmood et al., 2022). Furthermore, the use of advanced digital marketing technologies, such as AI-based analytics and social media automation, improves customer engagement, operational efficiency, and sales growth, although challenges related to digital infrastructure and literacy still need to be addressed (Novitasari et al., 2025).

From the perspective of Teece's (2018) DCT, customer technological sophistication serves as a strategic driver that encourages MSMEs to sense market changes, seize digital opportunities, and reconfigure marketing resources effectively (Raz & Zbaracki, 2014). By adapting marketing strategies to increasingly digital customer needs, MSMEs can strengthen customer acquisition, engagement, and loyalty, ultimately improving overall marketing performance (Alves et al., 2025). **H₁: Customer Tech Savviness Has a Positive Effect on Marketing Performance.**

2.2.2. The Effect of Business Partners on Marketing Performance

Strategic partnerships play an important role in improving MSME performance by encouraging mutual learning, resource sharing, risk reduction, and innovation development. Through collaboration, MSMEs can better adapt to market dynamics, strengthen competitive positions, and gain access to important resources such as financial services, market information, and distribution networks (Aulia et al., 2023). Effective partnerships are built on trust, transparency, shared objectives, and fair risk allocation, which help maintain sustainable relationships and improve organizational adaptability in complex business environments (Els et al., 2020). Empirical evidence also shows that vertical and institutional collaborations positively influence innovation capability and business performance, while strong supplier relationships contribute to customer satisfaction, brand consistency, and innovation through shared value creation and knowledge (Xie et al., 2023; Zhang & Qi, 2023).

From the perspective of Teece's (2018) DCT, collaboration with business partners enhances MSMEs' ability to integrate resources and develop marketing innovation strategies. Partnerships provide MSMEs with access to market knowledge, promotional support, and distribution channels, thereby improving the effectiveness of marketing implementation and accelerating time-to-market (Muna et al., 2024). Therefore, strong business partnerships significantly improve marketing

performance and overall business outcomes. **H₂: Business Partners Have a Positive Effect on Marketing Performance**

2.2.3. Effect of Customer Tech Savviness on Business Model Innovation

Customer tech savviness refers to consumers' readiness, confidence, and ability to use digital technologies and online platforms effectively (Blut & Wang, 2020). Customers with high technological competence tend to adapt more easily to digital environments, engage more actively in online interactions, and increase their involvement with MSMEs, encouraging businesses to innovate and adjust their business models in response to technological and market changes (Vaska et al., 2021). Business model innovation enables MSMEs to continuously refine value creation, delivery, and capture processes, helping them overcome resource limitations, create differentiation, and strengthen customer loyalty through digital technology (Bachmann & Jodlbauer, 2023; Liu, 2025).

Furthermore, successful digital transformation in MSMEs depends on aligning organizational readiness with customer digital readiness (Holopainen et al., 2022). Changes in increasingly digital consumer behavior encourage MSMEs to improve online interaction systems, optimize e-commerce utilization, and adapt marketing strategies based on customer preferences and digital behavior patterns (Kalava, 2024; Salah & Ayyash, 2024; Nitinkrishna, 2025). From the perspective of DCT by Teece (2018), customer technological sophistication acts as an external signal that drives MSMEs to reconfigure resources, integrate digital channels, and develop innovative value propositions and revenue models in order to remain competitive in dynamic digital markets (Bari et al., 2022). **H₃: Customer Tech Savviness Has a Positive Effect on Business Model Innovation**

2.2.4. Positive Effect of Business Partners on Business Model Innovation

Partnerships between MSMEs and startups facilitate knowledge transfer, resource integration, and value co-creation, which strengthen competitiveness and support sustainable growth (Nurcholidah et al., 2024). Through collaboration, MSMEs gain access to advanced technologies, market insights, broader distribution networks, and complementary resources that help overcome limitations in capital and market access. In this context, business model innovation becomes an important mechanism that enables MSMEs to create, deliver, and capture value in response to technological change, digital transformation, and evolving customer needs (Rudny, 2016; Clauss, 2023). The integration of internal and external resources through collaborative networks also supports information exchange, capability development, and sustainable value creation, ultimately improving competitive advantage (Faiz et al., 2026).

Furthermore, strategic collaboration through research, development, and shared governance accelerates innovation and enhances organizational adaptability (Subrahmanyam, 2025). Shared value creation within partnership networks has also been shown to strengthen business model innovation, resilience, and sustainability among MSMEs facing dynamic market environments (Annapoorna et al., 2025). From the perspective of DCT by Teece (2018), collaboration with business partners acts as a critical external resource that helps MSMEs identify opportunities, integrate knowledge and technologies, and reconfigure operational processes and value propositions (Jasim, 2025). **H₄: Business Partners Have a Positive Effect on Business Model Innovation**

2.2.5. The Effect of Business Model Innovation on Marketing Performance

Business model innovation is an important strategy for MSMEs to create, deliver, and capture value in response to technological developments and changing consumer expectations (Selvakumar et al., 2025). Through business model innovation, MSMEs can develop new revenue streams, strengthen customer relationships, improve operational efficiency, and create competitive differentiation (Bachmann & Jodlbauer, 2023). Innovative approaches in value creation and market development also help MSMEs overcome resource limitations while enhancing competitiveness and long-term sustainability (Ghajiga et al., 2023). In the context of digital markets, marketing performance depends on MSMEs' ability to deliver superior customer value and adapt marketing strategies to evolving consumer preferences (Amelia et al., 2025).

Previous studies have shown that business model innovation positively influences MSME performance and competitiveness, particularly through improvements in value propositions, value creation, and value delivery systems (Zang et al., 2024). Dynamic capabilities further strengthen this relationship, with business model innovation acting as a mechanism that enhances competitive advantage and organizational performance (Putra et al., 2025). MSMEs that continuously adapt and innovate their business models are more capable of responding to market changes, improving profitability, and achieving better marketing outcomes (Djuraeva, 2021). From the perspective of DCT by Teece (2018), business model innovation reflects the ability of MSMEs to identify opportunities, reconfigure resources, and adapt strategically, ultimately improving marketing effectiveness and overall business performance (Phong & Tam, 2024). **H₅: Business Model Innovation Has a Positive Effect on Marketing Performance**

2.2.6. The Mediation Role of Business Model Innovation Exerts a Positive Effect of Customer Tech Savviness on Marketing Performance

Customer technology savviness has a positive and significant influence on e-commerce adoption and marketing performance among MSMEs, as technologically skilled customers are more responsive to digital marketing strategies, social media engagement, and personalized content (Albashori et al., 2025; Kurniawan & Prihandono, 2025). However, the effect of customer technological sophistication on marketing performance is not entirely direct, as MSMEs must strategically adapt their value propositions and operational systems to meet changing customer expectations. In this context, business model innovation becomes an important mechanism that enables MSMEs to create, deliver, and capture value through digital technologies and innovative business strategies (Yerizal & Septaria, 2025). Business model innovation also strengthens resilience, competitiveness, and long-term growth, especially under conditions of crisis and resource (Huang & Ichikohji, 2024).

From the perspective of DCT by Teece (2018), MSMEs achieve superior performance by identifying environmental changes, seizing opportunities, and reconfiguring resources effectively (Gubler et al., 2018). Business model innovation reflects these dynamic capabilities by enabling MSMEs to adapt to technological developments and evolving customer needs continuously. Therefore, the influence of customer technology savviness on marketing performance occurs through the mediating role of business model innovation, which helps MSMEs improve value delivery systems and revenue generation mechanisms more effectively (Indrayani & Arman, 2025). **H₆: The Positive Effect of Customer Tech Savviness on Marketing Performance through Business Model Innovation**

2.2.7. The Mediation Role of Business Model Innovation Exerts Positive Effect of Business Partner on Marketing Performance

Business partner collaboration enables MSMEs to improve knowledge sharing, resource integration, innovation, and adaptability through cooperation with governments, research institutions, and other organizations (Mulyana & Wasitowati, 2021; Mariani et al., 2022; Mutambik, 2024). Through collaborative networks, MSMEs gain access to new technologies, skills, and market knowledge that support the redesign of value propositions and strengthen competitiveness. In this context, business model innovation becomes an important mechanism that helps MSMEs to create, deliver, and capture value in response to technological change and competitive pressures (Kumar, 2025). As a continuous adaptive process, business model innovation also supports resilience, long-term growth, and the ability to overcome resource limitations and environmental uncertainty (Huang & Ichikohji, 2024).

Previous studies have shown that business model innovation positively affects organizational performance and competitiveness, especially in the digital economy, and serves as a mediating mechanism that transforms collaborative resources into measurable business outcomes (Pucihar et al., 2019; Lu et al., 2025). From the perspective of DCT by Teece (2018), organizations improve performance by integrating and reconfiguring internal and external resources to respond to environmental changes (Putri et al., 2025). Therefore, collaboration with business partners indirectly enhances marketing performance through business model innovation, which converts shared knowledge and collaborative resources into stronger value propositions and marketing effectiveness (Sitaniapessy & Huwae, 2023). **H₇: The Positive Effect of Business Partner on Marketing Performance through Business Model Innovation.**

Based on the hypothesis above, the conceptual framework is illustrated in Figure 1 below. The illustration delineates a theoretical framework that amalgamates the primary variables examined in this research. Customer tech savviness and business partners are delineated as independent variables that influence business model innovation and directly impact the marketing performance of MSMEs.

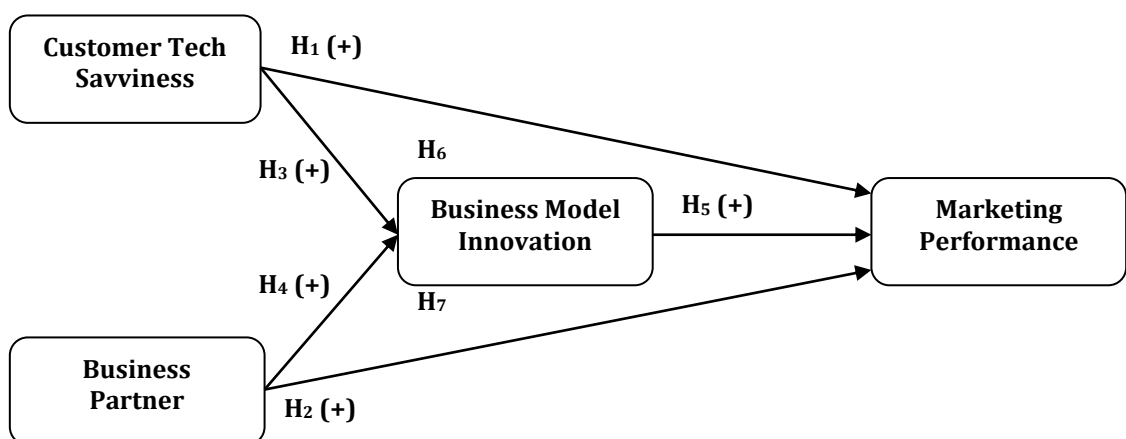


Figure 1. Conceptual Framework

Furthermore, business model innovation serves as a mediating variable, amplifying the correlation between the independent variables and marketing

performance. A sequence of hypotheses has been formulated to elucidate the direct and indirect associations among these variables. Cumulatively, the model underscores the pivotal role of business model innovation in augmenting the marketing performance of MSMEs.

3. Research Methods

3.1. Population and Sampling Method

This study focused on MSMEs operating in Indonesia's food and beverage sector. Based on data from the Indonesian Ministry of Cooperatives and MSMEs in 2023, around 66 million MSMEs operate nationwide, with most engaged in the food and beverage industry. A purposive sampling method was applied using several criteria: MSMEs operating in the food and beverage sector, utilizing e-commerce platforms, involving owners or managers with strategic decision-making authority, and having operated for at least one year. The minimum operational period was required to ensure respondents possessed sufficient business experience and measurable performance outcomes. In accordance with Hair and Alamer (2022) regarding the minimum number of respondents, this study utilized 250 questionnaires distributed to respondents, resulting in 187 valid responses and a response rate of 74.8%, which exceeds the acceptable threshold for quantitative survey research (Salah & Ayyash, 2024).

3.2. Data Collecting Method

The primary repository of information used for the research was a structured questionnaire administered to MSME owners and managers who met the specified sample criteria. Respondents are guaranteed that the data provided will be used only for academic research and that participation will be voluntary. Participants were selected from different regions and business sizes within the food and beverage MSME industry to reduce selection bias. In addition, screening questions were used only for participants who met the study's eligibility criteria.

Instruments validated in prior studies were modified to measure all concepts in this study. The Likert scale has five points, with "very low" (1) and "very high" (5) as extremes. Moreover, Salah and Ayyash (2024) discuss five items of customer tech savviness such as consumers' digital readiness, online interaction skills, access to digital information, confidence in using digital technologies, and measure customer tech savviness. The five items used to assess business partners were modified from Salah and Ayyash (2024) to represent aspects of strategic cooperation, information sharing, digital coordination, mutual trust and partner support. Five indicators, modified from Saqib et al. (2025) were used to evaluate business model innovation, including value creation, value delivery innovation, the development of new revenue streams, innovative transactions, and process innovation. Five items taken from Mohammad and Wasiuzzaman (2021) and Salah and Ayyash (2024) were used to measure marketing performance. These items reflect results such as revenue growth, market expansion, profitability, customer engagement and customer retention.

3.3. Data Analysis Method

Data analysis was conducted using Smart PLS with a two-stage partial least squares structural equation modeling (PLS-SEM) approach, following the guidelines of Hair et al. (2021). The analysis began with evaluating the measurement model through indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Indicator validity was assessed using outer loading values above 0.60, while Cronbach's alpha and composite reliability values above 0.70 indicated acceptable

reliability. Convergent validity was confirmed through AVE values above 0.50. After the measurement model met all required criteria, the structural model was analyzed to test the hypotheses using path coefficients, t-statistics, and p-values from bootstrapping with 5.000 subsamples. Hypotheses were considered supported when t-values exceeded 1.96 and p-values were below 0.05, while mediation effects were examined through indirect effect testing using the same bootstrapping procedure (Hair et al., 2021).

4. Results and Discussion

4.1. Characteristics of Respondents

The demographic characteristics of the 187 MSME owners and managers in the Indonesian food and beverage industry are briefly presented in Table 1. The fact that 72.73% of respondents were female shows that play an important role in the administration of food and beverage MSMEs in this environment. The majority of respondents (50.27%) were between 25 and 30 years old, indicating that the sample was primarily composed of young business owners, who were often more receptive to digital change. In terms of educational attainment, the majority of respondents had completed high school (59.89%), followed by those with undergraduate education (26.73%). This distribution shows that respondents have sufficient education to understand business innovation and digital adoption practices.

Table 1. Respondents Profile

Characteristic	Description	Frequency	Percentage
Gender	Male	51	27.27
	Female	136	72.73
Age	25–30 Years Old	94	50.27
	31–35 Years Old	33	17.65
	36–40 Years Old	24	12.83
	41–45 Years Old	23	12.30
	> 45 Years Old	13	6.95
Education	Junior High School	7	3.74
	Senior High School	112	59.89
	Diploma	5	2.67
	Bachelor Degree	50	26.74
	Master Degree	12	6.43
	Doctoral Degree	1	0.53

4.2. Validity and Reliability Test

Table 2 shows that all constructs meet the necessary validity and reliability standards and are suitable for further investigation within structural models. The Cronbach's alpha for the customer tech savviness construct was 0.867, the composite reliability was 0.904, and the AVE was 0.654. All indicators exhibited loadings exceeding the 0.70 threshold, thereby demonstrating adequate convergent validity and high internal consistency. In a similar vein, the business partner model exhibited satisfactory validity and reliability, with a Cronbach's alpha measurement of 0.873, a composite reliability of 0.907, and an AVE of 0.663. With a Cronbach's alpha of 0.934, a composite reliability of 0.951, and an AVE of 0.795, the business model innovation construct exhibits strong measurement characteristics. Constructs are measured consistently and accurately, as evidenced by high, substantial loadings across indicators. Finally, the marketing performance construct showed the best measurement quality, as evidenced by a Cronbach's alpha of 0.947, a composite reliability of 0.961, and an AVE of 0.829.

Table 2. Convergent Validity and Construct Reliability

Variable	Outer Loading	Composite Reliability	Cronbach's Alpha	AVE
Customer Tech Savviness (CTS)		0.904	0.867	0.654
CTS.1	0.842			
CTS.2	0.839			
CTS.3	0.836			
CTS.4	0.798			
CTS.5	0.722			
Business Partner (BP)		0.907	0.873	0.663
BP.1	0.794			
BP.2	0.825			
BP.3	0.869			
BP.4	0.695			
BP.5	0.876			
Business Model Innovation (BMI)		0.951	0.934	0.795
BMI.1	0.969			
BMI.2	0.956			
BMI.3	0.864			
BMI.4	0.862			
BMI.5	0.797			
Marketing Performance (MP)		0.961	0.947	0.829
MP.1	0.971			
MP.2	0.958			
MP.3	0.947			
MP.4	0.864			
MP.5	0.801			

The results of the validity and reliability evaluation indicated that each latent variable in the model met the criteria established by PLS-SEM. Figure 2 shows that all indicators have very strong loadings, ranging from 0.722 to 0.971.

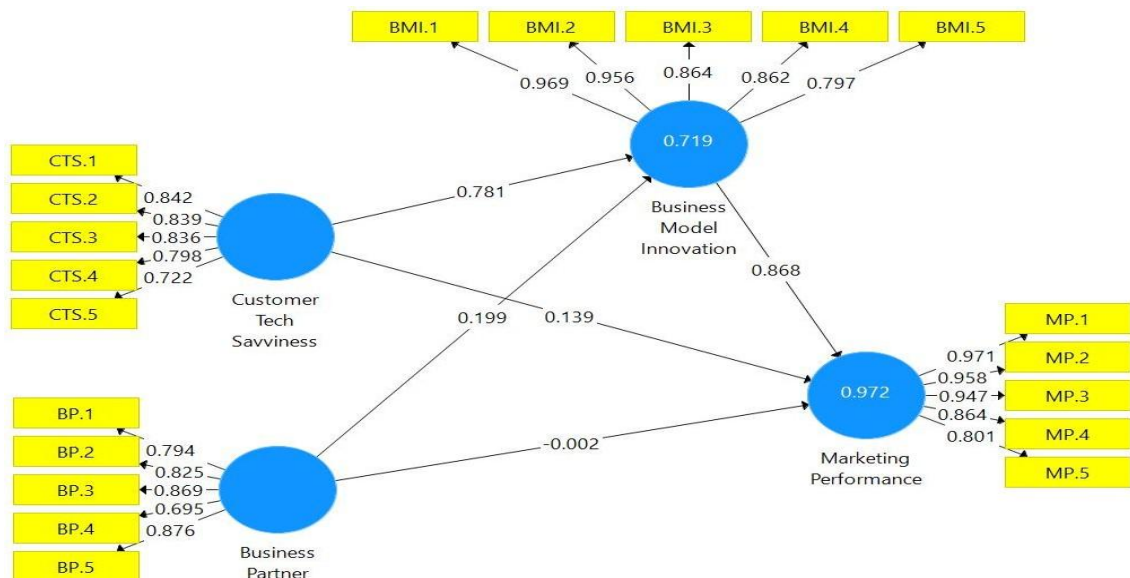


Figure 2. Measurement Model

4.3. Hypothesis Test

The findings show that customer tech savviness has a positive effect on marketing performance (T Statistics = 2.679; P Value = 0.008) and business model innovation (T Statistics = 16.608; P Value = 0.000). Business partner also significantly influences business model innovation (T Statistics = 4.249; P Value = 0.000), although it does not directly affect marketing performance (T Statistics = 0.151; P Value = 0.880). Furthermore, business model innovation significantly improves marketing performance (T Statistics = 17.521; P Value = 0.000) and mediates the relationship between customer tech savviness, business partner, and marketing performance, indicating that business transformation and innovation are essential for achieving stronger marketing outcomes. Table 3 shows the path analysis results.

Table 3. Path Analysis

Path Coefficient	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Value
Customer Tech Savviness → Marketing Performance	0.139	0.0135	0.053	2.679	0.008
Business Partner → Marketing Performance	-0.002	-0.004	0.012	0.151	0.880
Customer Tech Savviness → Business Model Innovation	0.781	0.784	0.045	16.608	0.000
Business Partner → Business Model Innovation	0.199	0.196	0.048	4.249	0.000
Business Model Innovation → Marketing Performance	0.868	0.873	0.051	17.521	0.000
Customer Tech Savviness → Business Model Innovation → Marketing Performance	0.678	0.684	0.058	11.926	0.000
Business Partner → Business Model Innovation → Marketing Performance	0.172	0.171	0.042	4.121	0.000

4.4. Discussion

4.4.1. Customer Tech Savviness Influences Marketing Performance

The second hypothesis, which posits that customers' technological savviness has a beneficial and substantial influence on marketing effectiveness, has been confirmed. Consumers with higher digital literacy tend to be more receptive to digital campaigns and online engagement initiatives. This research shows that higher digital literacy directly improves marketing outcomes. Companies can communicate more effectively and send more targeted marketing messages because familiar with digital platforms. As a result, businesses can increase engagement, expand their market reach, and increase the overall efficacy of their marketing strategies. Prior studies have demonstrated that the digital preparedness of consumers enhances the efficacy of marketing strategies and amplifies online engagement (Kumar et al., 2016).

Based on DCT by Teece (2018), companies that can understand and respond to customers' digital capabilities will find it easier to improve Marketing Performance. Customer tech savviness influences marketing performance because customers with high technological capabilities tend to be more active on digital platforms, quicker to receive marketing information, and more responsive to online marketing strategies. This condition helps companies improve marketing effectiveness, customer engagement, and market expansion. Recent studies also explain that customers' digital and dynamic capabilities can enhance a company's marketing performance through the adaptation of digital marketing strategies and

business transformation. Prior scholarly investigations have underscored that inter-organizational collaboration fosters the advancement of business models and strengthens firms' capacity for innovation, and these findings corroborate this assertion (Kraus et al., 2020; Bashir et al., 2020; Andreini et al., 2022).

4.4.2. Business Partners Influence Marketing Performance

Based on Teece's (2018) DCT, collaboration with business partners does not automatically improve marketing performance. This finding indicates that partnerships alone are insufficient to guarantee better marketing outcomes. In other words, simply establishing external collaboration cannot directly enhance marketing performance unless the resources and knowledge gained from partnerships are transformed into internal strategic initiatives and innovation processes within the organization. Companies must possess dynamic capabilities to effectively integrate, reconfigure, and utilize external resources to achieve superior marketing outcomes.

Zhang and Zhang (2024) explained that external collaboration does not directly influence firm performance unless supported by innovation capability and organizational adaptability. Similarly, Ferreira et al. (2024) found that strategic alliances contribute indirectly to marketing and organizational performance through internal capability development and business innovation processes. Previous research has emphasized that partnership gains are often indirect and depend on the capacity of firms to build and leverage internal resources (Teece, 2018; Kraus et al., 2020). Therefore, the impact of business partners on marketing performance is typically indirect and depends on the firm's ability to leverage internal resources and innovation capabilities.

4.4.3. Customer Tech Savviness Influences Business Model Innovation

According to the DCT by Teece (2018), companies must be able to conduct sensing, seizing, and reconfiguring in response to technological changes and customer needs to remain competitive. Customer tech savviness influences business model innovation, as customers with high digital capabilities encourage companies to continuously adapt their business models, distribution systems, and value-creation processes to keep pace with technological developments and changing consumer behavior. The higher the customers' ability to use digital technology, the greater the encouragement for companies to innovate their business models to remain relevant and competitive in the digital market. In addition, customers who actively use digital platforms help companies accelerate digital transformation processes and develop more adaptive business models (Lee et al., 2019). Previous research shows that digitally skilled consumers can accelerate business model innovation and support companies' digital transformation processes, supporting this conclusion (Kumar et al., 2016; Salah & Ayyash, 2024; Liu, 2025).

4.4.4. Business Partners influence Business Model Innovation

Based on DCT by Teece (2018), collaboration with external partners is an important organizational capability for driving innovation and maintaining competitive advantage. Business partners influence business model innovation by encouraging companies to continuously improve and optimize their business models through collaboration that provides access to knowledge, technology, and strategic resources. Through strategic alliances, firms can gain market intelligence and technological capabilities that support innovation and help them respond more effectively to changing customer demands and dynamic market conditions. Previous

research has emphasized that partnership gains are often indirect and depend on the capacity of firms to build and leverage internal resources (Teece, 2018; Kraus et al., 2020).

Recent studies also support these findings. Jie et al. (2025) explained that digital capability and dynamic capability significantly encourage business model innovation through organizational adaptability and resource reconfiguration. In addition, research by Nuseir et al. (2024) stated that collaboration within digital business ecosystems strengthens firms' innovation capabilities and accelerates innovation processes through learning and external resource integration. These findings indicate that partnerships and external collaboration are important drivers of business model innovation and of maintaining competitiveness in dynamic business environments.

4.4.5. Business Model Innovation Influences Marketing Performance

Empirical evidence indicates that business model innovation positively and significantly influences marketing performance. These results substantiate the critical function of business model innovation in enhancing marketing outcomes. By continuously modifying the value-creation and delivery process, businesses will be better able to attract clients, increase engagement, and strengthen their competitive advantage. Companies can react more effectively to market shifts and change consumer demand by modifying their business strategy over time. These results support previous research showing that business model innovation plays an important role in improving marketing effectiveness and company performance (Bashir et al., 2020; Andreini et al., 2022).

Liu (2025) explained that business model innovation enhances organizational competitiveness and performance through improved strategic adaptability and customer value creation. Furthermore, Lin et al. (2025) found that firms implementing innovative business models achieve better marketing and organizational performance because more responsive to digital transformation and market dynamics. These findings confirm that business model innovation is a crucial strategic mechanism for improving marketing performance and sustaining long-term business success.

4.4.6. Customer Tech Savviness Influences Marketing Performance through Business Model Innovation

The findings support the sixth hypothesis, showing that business model innovation mediates the relationship between customer tech savviness and marketing performance. As customers become more technologically capable, firms are encouraged to innovate and adapt their business models, thereby improving marketing performance. This indicates that organizations capable of transforming customers' digital competencies into innovative value-creation and delivery strategies achieve better marketing outcomes. Thus, business model innovation plays an important role in converting customer technological capability into marketing effectiveness.

From the perspective of the DCT proposed by Teece (2018), changes in customer technology trends encourage firms to continuously realign resources and innovate business models to maintain competitiveness and improve performance. This correlation is further substantiated by empirical findings, which indicate that an elevated level of customer digital preparedness significantly enhances organizational performance, predominantly via innovation and digital transformation initiatives

(Kumar et al., 2016; Salah & Ayyash, 2024; Lin et al., 2025). Consequently, business model innovation is a critical intermediary linking customers' technological proficiency to marketing outcomes.

4.4.7. Business Partners Influence Marketing Performance through Business Model Innovation

The findings of this study support the seventh hypothesis, showing that collaboration with business partners significantly influences marketing performance through business model innovation. Although partnerships may not directly improve marketing outcomes, their impact becomes meaningful when companies transform and innovate their business models. In other words, external collaboration encourages firms to redesign and strengthen their business strategies, leading to better marketing performance. These results are consistent with Teece's (2018) DCT, which emphasizes that external collaboration enhances a company's ability to reconfigure its resources and capabilities.

However, improved performance generally emerges only after collaborative efforts are integrated into business model transformation. Previous studies also confirmed that inter-organizational collaboration positively affects business performance through innovation strategies and organizational transformation (Kraus et al., 2020; Bashir et al., 2020; Andreini et al., 2022). Therefore, business model innovation acts as a key mediating mechanism linking partner collaboration to marketing performance outcomes. Unlike previous studies that mainly focused on organizational culture or leadership as drivers of innovation, this study specifically explains how collaboration and innovation jointly contribute to stronger marketing performance and overall business success (Aristayudha et al., 2024).

5. Conclusion

This analysis shows that the effectiveness of marketing in digital-era MSMEs is influenced not only by external pressures but also by the organization's ability to transform these pressures into business model innovation. The findings highlight that customer engagement and technological capability become strategic drivers of marketing performance when supported by adaptive business model innovation. These results reinforce DCT, which holds that sensing and collaboration must translate into transformation to achieve superior performance.

Theoretically, this study extends DCT by proving that business model innovation functions as a strategic link between environmental stimuli and MSME marketing performance. Empirically, customer tech savviness and collaboration with business partners have been shown to significantly boost a company's business model innovation. In practice, the findings suggest that MSMEs should not rely solely on collaboration or on digitally literate customers. However, MSMEs should also focus on redesigning revenue models, value propositions, and digital engagement systems. For educators and policymakers, the study emphasizes the importance of strengthening capabilities in digital transformation and business model redesign to improve MSME competitiveness and sustainability. Despite its contributions, this study has several limitations, including a limited geographical scope, a cross-sectional design, and a focus on only a few variables. Therefore, future research is encouraged to use longitudinal approaches, include additional strategic variables, and conduct comparative studies across industries or countries to strengthen the validity of the findings.

References

- Adistia, M., & Sanaji, S. (2022). Influence of social media marketing, e-commerce, and product innovation on marketing performance (Study on food and beverage SMEs in Surabaya). *Journal of Business and Management Review*, 3(7), 453-469. <https://doi.org/10.47153/jbmr37.4272022>
- Agyemang, A. (2016). Marketing strategy and marketing performance: Does strategy affect performance?. *International Journal of Advanced Engineering, Management and Science*, 2(10), 239657.
- Albashori, M. F., Wahyuning, S., & Nugroho, H. A. (2025). Digital marketing strategy and consumer behavior: A case study of e-commerce businesses. *Oikonomia: Journal of Management Economics and Accounting*, 2(3), 20-27.
- Almajali, R., & Allah, M. A. A. (2025). Mapping the influence of digital transformation on SMEs growth and innovation in entrepreneurship: A bibliometric study (2014–2024). *Dibon Journal of Business*, 1(4), 277-295. <https://doi.org/10.64169/djb.119>
- Alves, M., Santos, V., & Marcão, R. (2025). Development and application of digital marketing strategies. In *Evolving strategies for organizational management and performance evaluation* (pp. 89-108). IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-3373-0149-5.ch006>
- Amelia, N., Prasojo, B. H., Racmadany, A., & Pebrianggara, A. (2025). Digital Marketing Strategy For MSME Sales. In *Proceeding of International Conference on Social Science and Humanity* (Vol. 2, No. 1, pp. 845-849). <https://doi.org/10.61796/icossh.v2i1.236>
- Andreini, D., Bettinelli, C., Foss, N. J., & Mismetti, M. (2022). Business model innovation: A review of the process-based literature. *Journal of Management and Governance*, 26(4), 1089-1121. <https://doi.org/10.1007/s10997-021-09590-w>
- Annapoorna, M. S., Sundharesalingam, P., Rani, M. R., Prabha, R., & Kumar, B. R. (2025). Collaborative sustainability for building resilient business models through strategic partnerships for startup growth. In *Navigating Strategic Partnerships for Sustainable Startup Growth* (pp. 53-84). IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-3693-4066-0.ch003>
- Aristayudha, A. A. N. B., Widnyani, N. M., Rettobjaan, V. F. C., & Richadinata, K. R. P. (2024). Exploring the dynamics of innovation antecedents and outcomes in business performance. *Journal of Economics and Public Health*, 3(1), 19-28.
- Aulia, M. R., Lubis, Z., & Effendi, I. (2023). Leveraging quality management and partnership programs for technopreneurial success: Exploring their impact on msme performance. *Aptisi Transactions on Technopreneurship (ATT)*, 5(2), 157-168.
- Bachmann, N., & Jodlbauer, H. (2023). Iterative business model innovation: A conceptual process model and tools for incumbents. *Journal of Business Research*, 168, 114177. <https://doi.org/10.1016/j.jbusres.2023.114177>
- Banerjee, S., Chakraborty, I., Choi, H., Datta, H., Daviet, R., Farronato, C., Kim, M., Lambrecht, A., Manchanda, P., Oery, A., Sen, A., Alstyne, M. W. Van, Vana, P., Wilbur, K. C., Zhang, X., & Zhou, B. (2024). Digital platforms 2.0: Learnings, opportunities, and challenges. *Opportunities, and Challenges* (May 31, 2024). <https://doi.org/10.2139/ssrn.4850078>
- Bari, N., Chimhundu, R., & Chan, K. C. (2022). Dynamic capabilities to achieve corporate sustainability: A roadmap to sustained competitive advantage. *Sustainability*, 14(3), 1531. <https://doi.org/10.3390/su14031531>
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120. <https://doi.org/10.1177/014920639101700108>

- Bashir, M., Naqshbandi, M. M., & Farooq, R. (2020). Business model innovation: A systematic review and future research directions. *International Journal of Innovation Science*, 12(4), 457-476. <https://doi.org/10.1108/IJIS-06-2020-0081>
- Bayer, S. (2025). The contribution of technology intelligence to sustainable competitiveness. *Journal of Istanbul School of Technology*, 1(1), 81-97. <https://doi.org/10.5281/zenodo.16896082>
- Biemans, W. (2023). The impact of digital tools on sales-marketing interactions and perceptions. *Industrial Marketing Management*, 115, 395-407. <https://doi.org/10.1016/j.indmarman.2023.10.015>
- Blut, M., & Wang, C. (2020). Technology readiness: A meta-analysis of conceptualizations of the construct and its impact on technology usage. *Journal of the Academy of Marketing Science*, 48(4), 649-669. <https://doi.org/10.1007/s11747-019-00680-8>
- Chaurasia, A., & Parmar, D. S. (2023). Online customer engagement: A systematic literature review. *International Journal For Multidisciplinary Research*, 5(6). <https://doi.org/10.36948/ijfmr.2023.v05i06.11348>
- Chen, K., & Sumartono, E. (2024). Exploring pathways for integrating digital economy with traditional industries: A strategic approach to development and growth. *BIMA Journal (Business, Management, & Accounting Journal)*, 5(2), 73-82. <https://doi.org/10.37638/bima.5.2.73-82>
- Clauss, T. (2023). In search for the holy grail in management research: A review of the benefits of business model innovation. *Debating Innovation: Perspectives and Paradoxes of an Idealized Concept*, 103-121. https://doi.org/10.1007/978-3-031-16666-2_6
- Deviroshini, M., Muthumani, S., & Bodunrin, S. (2025). Study on influence of digital marketing on customer purchase behaviour. *Journal Publication of International Research for Engineering and Management (JOIREM)*, 3(11).
- Diana, D., & Haldy, M. (2026). Empowering engagement: Digital community marketing strategies in the era of interactive platforms. *International Journal of Education Management and Religion*, 3(1), 158-177. <https://doi.org/10.71305/ijemr.v3i1.1107>
- Djuraeva, L. (2021). Importance of the innovative business models for the future success of the company. In *SHS Web of Conferences* (Vol. 100, p. 01013). EDP Sciences. <https://doi.org/10.1051/shsconf/202110001013>
- Dwivedi, A., & Pawsey, N. (2023). Examining the drivers of marketing innovation in SMEs. *Journal of Business Research*, 155, 113409. <https://doi.org/10.1016/j.jbusres.2022.113409>
- Earnshaw, K. (2023). Relationship between supply chain management and competitor intensity in the food business: A structural equation model. *Journal of Economics Business Industry*, 1(2), 63-70. <https://doi.org/10.59976/jebin.v1i2.18>
- Els, C., Grobbelaar, S., & Kennon, D. (2020). Complementary partnerships for SMEs: A relational capability maturity model from an ecosystem perspective. In *Conference on e-Business, e-Services and e-Society* (pp. 67-78). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-44999-5_6
- Faiz, R., Isfianadewi, D., & Sudrajat, Y. (2026). Innovation capability, absorptive capacity, and collaborative networks as determinants of competitive advantage in the SME laundry sector. *Jurnal EMT KITA*, 10(2), 577-587. <https://doi.org/10.35870/emt.v10i2.5622>
- Ferreira, J. J., Cruz, B., Veiga, P. M., & Ribeiro-Soriano, D. (2024). Knowledge strategies and digital technologies maturity: Effects on small business performance. *Entrepreneurship & Regional Development*, 36(1-2), 36-54. <https://doi.org/10.1080/08985626.2022.2159544>
- Gao, J., Siddik, A. B., Khawar Abbas, S., Hamayun, M., Masukujjaman, M., & Alam, S. S. (2023). Impact of E-commerce and digital marketing adoption on the financial and sustainability

- performance of MSMEs during the COVID-19 pandemic: An empirical study. *Sustainability*, 15(2), 1594. <https://doi.org/10.3390/su15021594>
- Garbuzova, T. G., Rinas, N. A., Pakhomova, A. I., & Shestakov, A. R. (2025). Digitalization as a factor in the transformation of economic and managerial processes. *Economics and Management: Problems, Solutions*, 3(8), 161.
- Ghajiga, G. S., Warlimont, D. J., & Warlimont, P. S. (2023). Leap-frogging the competition through blue ocean strategy: A compelling case for small and medium enterprises. *Ovidius University Annals, Economic Sciences Series*, 23(1), 113-121.
- Gubler, T., Larkin, I., & Pierce, L. (2018). Doing well by making well: The impact of corporate wellness programs on employee productivity. *Management Science*, 64(11), 4967-4987. <https://doi.org/10.1287/mnsc.2017.2883>
- Gupta, D. G. (2021). Book review: Consumer behavior: A digital native. *Journal of Macromarketing*, 41, 506 - 508. <https://doi.org/10.1177/0276146720984204>
- Guzairy, M., Mohamad, N., & Mahmood, W. H. N. W. (2024). Dynamic capabilities and technology competence: A study on firm performance in Groom Big Programs. *International Journal of Academic Research in Business and Social Sciences*, 14(10). <http://dx.doi.org/10.6007/IJARBS/v14-i10/23168>
- Hair, J. F., & Alamer, A. (2022). Partial least squares structural equation modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics*, 1(3), 100027. <https://doi.org/10.1016/j.rmal.2022.100027>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook*. Springer International Publishing.
- Holopainen, M., Ukko, J., & Saunila, M. (2022). Managing the strategic readiness of industrial companies for digital operations. *Digital Business*, 2(2), 100039. <https://doi.org/10.1016/j.digbus.2022.100039>
- Huang, W., & Ichikohji, T. (2024). How dynamic capabilities enable Chinese SMEs to survive and thrive during COVID-19: Exploring the mediating role of business model innovation. *PLoS One*, 19(5), e0304471. <https://doi.org/10.1371/journal.pone.0304471>
- Ijomah, T. I., Idemudia, C., Eyo-Udo, N. L., & Anjorin, K. F. (2024). Innovative digital marketing strategies for SMEs: Driving competitive advantage and sustainable growth. *International Journal of Management & Entrepreneurship Research*, 6(7), 2173-2188. <https://doi.org/10.51594/ijmer.v6i7.1265>
- Ilyas, A., Sumardi, A. R. K., & Umar, F. (2025). Agile Marketing as a mediator between entrepreneurial orientation and the effectiveness of MSME digital marketing in Tarakan City. *Journal of Hunan University Natural Sciences*, 52(7). <https://doi.org/10.55463/issn.1674-2974.52.7.12>
- Indrayani, S., & Arman, A. (2025). The role the role of innovation mediation on the influence of digital marketing capabilities on MSME marketing performance in Makassar. *Asian Journal of Management, Entrepreneurship and Social Science*, 5(03), 920-940. <https://doi.org/10.63922/ajmesc.v5i03.1417>
- Jasim, B. H. (2025). Strategic management for sustainable competitive advantage: Integrating RBV, dynamic capabilities, digital transformation, and ESG. *South Asian Research Journal of Business and Management*, 7(5), 420-423. <https://doi.org/10.36346/sarjbm.2025.v07i05.003>
- Jie, H., Gooi, L. M., & Lou, Y. (2025). Digital maturity, dynamic capabilities and innovation performance in high-tech SMEs. *International Review of Economics & Finance*, 99, 103971. <https://doi.org/10.1016/j.iref.2025.103971>

- Kalava, S. P. (2024). Revolutionizing customer experience: How CRM digital transformation shapes business. *European Journal of Advances in Engineering and Technology*, 11(3), 163-166.
- Kardana, H. D., Luwiha, L., Suryanadi, J., & Majeed, M. K. (2025). The influence of business model innovation on increasing company competitiveness in the digital era. *Journal of Economic, Religious, and Entrepreneurship (JoERE)*, 3(1), 37-48. <https://doi.org/10.60046/joere.v3i1.172>
- Kamyabi, M., Özgüt, H., & Ahmed, J. N. (2025). Sustaining digital marketing strategies to enhance customer engagement and brand promotion: Position as a moderator. *Sustainability*, 17(7), 3270. <https://doi.org/10.3390/su17073270>
- Kraus, S., Filser, M., Puumalainen, K., Kailer, N., & Thurner, S. (2020). Business model innovation: A systematic literature review. *International Journal of Innovation and Technology Management*, 17(06), 2050043. <https://doi.org/10.1142/S0219877020500431>
- Kumar, A., Bezawada, R., Rishika, R., Janakiraman, R., & Kannan, P. K. (2016). From social to sale: The effects of firm-generated content in social media on customer behavior. *Journal of Marketing*, 80(1), 7-25. <https://doi.org/10.1509/jm.14.0249>
- Kumar, R. R. (2025). Business model innovation rethinking the way we do business: Adapting to change with strategic and agile business models. *AI-Powered Leadership: Transforming Organizations in the Digital Age*, 109-134. <https://doi.org/10.4018/979-8-3373-1687-1.ch004>
- Kurniawan, A., & Prihandono, D. (2025). The influence of artificial intelligence integration, customer technology proficiency, innovation culture on e-commerce adoption and its impact on marketing performance with entrepreneurial orientation as a moderation variable. *Devotion: Journal of Research and Community Service*, 6(9), 1011-1024.
- Kwak, Y. H., Chung, D. B., & You, H. S. (2025). The effect of entrepreneurial orientation on business model innovation and business performance: The moderating effect of organizational culture. *Journal of Korea Service Management Society*, 25(5).
- Lee, J., Suh, T., Roy, D., & Baucus, M. (2019). Emerging technology and business model innovation: The case of artificial intelligence. *Journal of Open Innovation: Technology, Market, and Complexity*, 5(3), 44. <https://doi.org/10.3390/joitmc5030044>
- Li, L., Xu, C., Zhang, Q., Liu, Y., & Li, Q. (2025). Leveraging generative AI capabilities for competitive advantage: A moderated mediation analysis of environmental dynamism and service innovation. *Industrial Marketing Management*, 128, 10-20. <https://doi.org/10.1016/j.indmarman.2025.05.007>
- Lin, H., Wen, J., Li, W., & He, Y. (2025). Strategic alliances and corporate ESG performance. *International Review of Economics & Finance*, 98, 103855. <https://doi.org/10.1016/j.iref.2025.103855>
- Liu, Z. (2025). Exploration of the difficulties in formulating and implementing differentiated marketing strategies for small and medium-sized enterprises (SMEs). *Highlights in Business, Economics and Management*, 64, 1-7. <https://doi.org/10.54097/gbqvqvq23>
- Lu, C., Qi, Y., Hao, S., & Yu, B. (2025). How and when collaborative innovation networks influence new product development performance in SMEs: Evidence from China. *Journal of Business & Industrial Marketing*, 40(1), 188-201. <https://doi.org/10.1108/JBIM-11-2022-0518>
- Mahmood, M., Batool, S. H., Rafiq, M., & Safdar, M. (2022). Examining digital information literacy as a determinant of women's online shopping behavior. *Information Technology & People*, 35(7), 2098-2114. <https://doi.org/10.1108/itp-05-2021-0397>
- Mariani, L., Trivellato, B., Martini, M., & Marafioti, E. (2022). Achieving sustainable development goals through collaborative innovation: Evidence from four European initiatives. *Journal of Business Ethics*, 180(4), 1075-1095. <https://doi.org/10.1007/s10551-022-05193-z>

- Mashingaidze, M. (2025). Business model innovation and the resilience of SMEs in developing countries: A context of strategy. *International Journal of Research in Business & Social Science*, 14(9). <https://doi.org/10.20525/ijrbs.v14i9.4596>
- Maycotte, S., Alvarez-Risco, A., Garcia-Valenzuela, E., & Kuljis, M. (2025). Digital capabilities in emerging market firms: Construct development, scale validation, and implications for SMEs. *Journal of Open Innovation: Technology, Market, and Complexity*, 11(2), 100513. <https://doi.org/10.1016/j.joitmc.2025.100513>
- Mohammad, W. M. W., & Wasiuzzaman, S. (2021). Environmental, Social and Governance (ESG) disclosure, competitive advantage and performance of firms in Malaysia. *Cleaner Environmental Systems*, 2, 100015. <https://doi.org/10.1016/j.cesys.2021.100015>
- Muchtar, Y. C., Muchtar, M. A., & Putra, A. F. (2022). Collaboration networks and sustainable SMEs performance: The role of digital leadership as moderating variable. *Proceedings of the 3rd Economics and Business International Conference (EBIC 2022)*. <http://dx.doi.org/10.4108/eai.22-9-2022.2337405>
- Muis, I. (2025). A PRISMA-Guided systematic review on the business performance of small and medium enterprises in Indonesia. *Journal of Accounting and Finance Management*, 6(3), 1381-1387.
- Mulyana, M., & Wasitowati, W. (2021). The improvement of collaborative networks to increase small and medium enterprises (SMEs) performance. *Serbian Journal of Management*, 16(1), 213-229. <https://doi.org/10.5937/sjm16-24369>
- Muna, N., Sukresna, I. M., & Praswati, A. N. (2024). Collaborative marketing innovation: How to energize social capital to enhance MSME's performance?. *Asian Management and Business Review*, 205-220.
- Mutambik, I. (2024). The role of strategic partnerships and digital transformation in enhancing supply chain agility and performance. *Systems*, 12(11), 456.
- Najmaei, A., Alhumdan, E., & Behnia, M. (2017). Bridging the gap between agility and performance: The role of business model innovation. In *Academy of Management Proceedings* (Vol. 2017, No. 1, p. 12752). Briarcliff Manor, NY 10510: Academy of Management. <https://doi.org/10.5465/AMBPP.2017.12752abstract>
- Natalia, N., Subekthi, E., Herdiani, F. D., & Sj, F. (2025). Cloud computing integration in the digital transformation of MSMEs: A case study on the retail sector. *Technologia Journal*, 2(4), 30-40. <https://doi.org/10.62872/jkbsjt34>
- Neagu, C. (2016). The importance and role of small and medium-sized businesses. *Theoretical and Applied Economics*, 23(3), 331-338.
- Nitinkrishna, K. R. (2025). Investigating customer behaviour in the digital age: An empirical analysis of online buying trends. *International Journal of Innovations in Science, Engineering And Management*, 250-254. <https://doi.org/10.69968/ijisem.2025v4i3250-254>
- Novitasari, D., Goestjahjanti, F. S., Rahardja, U., Santoso, S., Sihotang, S. V., Santoso, N. A., & Cesna, G. P. (2025). Optimizing msme performance through marketing capabilities and digital marketing adoption. In *2025 4th International Conference on Creative Communication and Innovative Technology (ICCIT)* (pp. 1-7). IEEE. <https://doi.org/10.1109/ICCIT65724.2025.11167878>
- Nurbasari, A., Machmud, A., Aribowo, A., & Megawati, S. (2026). Digital entrepreneurial marketing and industrial transformation: Evidence from food and beverage small and medium industries in Indonesia toward sustainable development goals (SDGs). *Indonesian Journal of Science and Technology*, 11(2), 217-232. <https://doi.org/10.17509/ijost.v11i2.89774>
- Nurcholidah, L., Giansyah, P., Tobroni, S. S., Lestari, A. A. A., & Lutfiana, K. S. (2024). The role of partnerships with Startups in promoting innovation and MSME development for poverty

- alleviation. *Technology and Society Perspectives (TACIT)*, 2(2), 225-233. <https://doi.org/10.61100/tacit.v2i2.200>
- Nuseir, M. T., Refae, G. A. E., & Aljumah, A. (2024). The impact of digital marketing strategies on customer satisfaction and organisational performance: Exploring the moderating role of entrepreneurial intention. *International Journal of Economics and Business Research*, 28(6), 56-74. <https://doi.org/10.1504/IJEER.2024.10067353>
- Pahlawansah, H., Octiva, C. S., & Muafiqie, H. (2023). Measurement analysis of the level of e-commerce adoption readiness in SMEs using technology readiness index method. *Jurnal Sistim Informasi dan Teknologi*, 193-197. <https://doi.org/10.60083/jsisfotek.v5i2.263>
- Pandey, P. (2026). Digital transformation and resilience in MSMEs: A systematic literature review of barriers, capabilities, and policy supports (2015–2025). *Asian Journal of Economics, Business and Accounting*, 26(1), 43-65.
- Pasha, E. I. (2023). Business model innovation strategy to increase business resilience in the retail sector in the era of digital disruption (Case study in 2023). *Jurnal Ekonomi Teknologi dan Bisnis (JETBIS)*, 2(12), 835-848. <https://doi.org/10.57185/y9m60y37>
- Phong, V., & Tam, V. (2024) The impact of dynamic capabilities on performance of small and medium tourism businesses: A study for the South-Central Coast Region, Vietnam. *Open Journal of Business and Management*, 12, 444-471. <https://doi.org/10.4236/ojbm.2024.121028>
- Pucihar, A., Lenart, G., Kljajić Borštnar, M., Vidmar, D., & Marolt, M. (2019). Drivers and outcomes of business model innovation—Micro, small and medium-sized enterprises perspective. *Sustainability*, 11(2), 344. <https://doi.org/10.3390/su11020344>
- Putra, I. P. A. F. A., Siahainenia, J. P., & Efrata, T. C. (2025). The influence of dynamic capabilities on business performance through business model innovation among MSMEs in Surabaya. *Jurnal Entrepreneur dan Entrepreneurship (JEE)*, 14(2), 151-168. <https://doi.org/10.37715/jee.v14i2.6067>
- Putri, E., Akbar, A. M., Alabdullah, T. T. Y., Ar-Ridho, K. J., Adhi, A. S., & Putri, W. A. A. (2025). Dynamic capability theory: Digital transformation as a sustainable competitive performance strategy for MSMEs. *Riset Akuntansi dan Keuangan Indonesia*, 10(3), 314-325. <https://doi.org/10.23917/reaksi.v10i3.5345>
- Rasdien, Z., Poee, D., & Munyanyi, W. (2024). Supplier relationship management for enterprise development in the cement industry. *The Southern African Journal of Entrepreneurship and Small Business Management*, 16(1), 771. <https://doi.org/10.4102/sajesbm.v16i1.771>
- Ravikumar, M. (2025). Enhancing retail customer experience through digital transformation: Opportunities, challenges, and strategies. *Journal of Multidisciplinary Research Transactions*, 7(7), 1-14. <https://doi.org/10.5281/zenodo.15779345>
- Raz, M., & Zbaracki, M. J. (2014). Dynamic Capabilities: Maintaining The Distinction Between Practices And Possibilities. In *Academy of Management Proceedings* (Vol. 2014, No. 1, p. 14151). Briarcliff Manor, NY 10510: Academy of Management. <https://doi.org/10.5465/ambpp.2014.14151abstract>
- Rudny, W. (2016). Business model innovation and value creation. *SJ-Economics Scientific Journal*, 22(3), 132-142. <https://doi.org/10.58246/sjeconomics.v22i3.316>
- Salah, O. H., & Ayyash, M. M. (2024). E-commerce adoption by SMEs and its effect on marketing performance: An extended of TOE framework with AI integration, innovation culture, and customer tech-savviness. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(1), 100183. <https://doi.org/10.1016/j.joitmc.2023.100183>
- Salsabila, S. S., Ilmiyati, K., Winarno, A., & Kusdiyanti, H. (2025). Business models as an adaptation strategy for MSMEs in responding to changes in the business environment: A conceptual perspective. *Global Economics: International Journal of Economic, Social and Development Sciences*, 2(4), 73–79. <https://doi.org/10.70062/globaleconomics.v2i4.429>

- Santoso, L. (2025). Evaluating digital readiness for adopting mobile-based public service information systems in rural areas. *Teknik: Jurnal Ilmu Teknik dan Informatika*, 5(2), 108-127. <https://doi.org/10.51903/teknik.v5i2.978>
- Saputra, M. H., & Ariningsih, E. P. (2025). Building an adaptive selling capability model to improve MSMEs marketing performance. *Diponegoro International Journal of Business*, 8(1), 76-92. <https://doi.org/10.14710/dijb.8.1.2025.76-92>
- Saqib, N., Amin, F., Gupta, S., & Satar, M. S. (2025). Digital business model innovation: Scale development and validation. *Business Process Management Journal*, 31(5), 1636-1662. <https://doi.org/10.1108/bpmj-10-2023-0816>
- Seepana, C., Khraishi, A., Paulraj, A., & Huq, F. A. (2022). Offshore outsourcing of innovation by SMEs: A 4F perspective of governance. *Supply Chain Management: An International Journal*, 27(5), 663-680. <https://doi.org/10.1108/scm-09-2020-0486>
- Selvakumar, P., Aradhya, S. G. B., Anute, N., Devi, S., Sharma, M., & Vaissnave, V. (2025). Strategic collaborations and partnerships in entrepreneurship. In *Support Networks for Entrepreneurs: Social Capital and Strategic Collaborations* (pp. 203-232). IGI Global Scientific Publishing.
- Sharabati, A. A. A., Ali, A. A. A., Allahham, M. I., Hussein, A. A., Alheet, A. F., & Mohammad, A. S. (2024). The impact of digital marketing on the performance of SMEs: An analytical study in light of modern digital transformations. *Sustainability*, 16(19), 8667. <https://doi.org/10.3390/su16198667>
- Sinha, K. J., Sinha, S., & Sinha, B. J. (2024). Micro, small, and medium-sized enterprises (MSMEs): The significant role and challenges in Indonesia's economy. *International Journal For Multidisciplinary Research*, 6(3), 20824.
- Sitaniapessy, R. H., & Huwae, V. E. (2023). Collaboration with business partners and business performance: The role of relational competitive advantage. *Asia Pacific Journal of Management and Education*, 6(2), 90-103. <https://doi.org/10.32535/apjme.v6i2.241>
- Solntsev, S., Smerichevskiy, S., Stadnichenko, V., Zakryzhevskaya, I., & Patlai, A. (2023). Digital marketing as a tool for the enterprises' development in the conditions of the global competition. *Management Theory and Studies for Rural Business and Infrastructure Development*, 45(3), 250-257. <https://doi.org/10.15544/mts.2023.25>
- Subrahmanyam, S. (2025). Strategic collaboration and partnerships in R&D for innovation. In *Research and Development Practices in Innovation* (pp. 283-314). IGI Global Scientific Publishing.
- Sukania, I. W., Irawan, A. P., & Dewi, F. I. R. (2024). Systematic literature review innovation model as a mediating and moderating variable in MSMEs performance. *International Journal of Application on Economics and Business*, 2(3), 279-287.
- Sun, W., Chen, K., & Mei, J. (2024). Integrating the resource-based view and dynamic capabilities: a comprehensive framework for sustaining competitive advantage in dynamic markets. *EPRA International Journal of Economic and Business Review*, 12(9), 1-8. <https://doi.org/10.36713/epra18157>
- Supriyanto, A., Said, L. R., Firdaus, M. R., Asma, R., & Redawati, R. (2024). A systematic literature review on dynamic capabilities in marketing. *Access Journal-Access to Science, Business, Innovation in the Digital Economy*, 5(3), 478-492. [https://doi.org/10.46656/access.2024.5.3\(6](https://doi.org/10.46656/access.2024.5.3(6)
- Tavassoli, S. A. M., & Bengtsson, L. (2018). The role of business model innovation for product innovation performance. *International Journal of Innovation Management*, 22(07), 1850061. <https://doi.org/10.1142/S1363919618500615>
- Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning*, 51(1), 40-49. <https://doi.org/10.1016/j.lrp.2017.06.007>

- Vaska, S., Massaro, M., Bagarotto, E. M., & Dal Mas, F. (2021). The digital transformation of business model innovation: A structured literature review. *Frontiers in Psychology, 11*, 539363. <https://doi.org/10.3389/fpsyg.2020.539363>
- Wang, D. (2025). Strategic practice of “core category deep cultivation+ diversified supplement” in small and medium-sized medicinal and chemical foreign trade enterprises: A multiple-case study based on resource-based view and dynamic capability theory. *Frontiers in Management Science, 4*(6), 73-79. <https://doi.org/10.63593/FMS.2788-8592.2025.11.010>
- Xie, X., Liu, X., & Chen, J. (2023). A meta-analysis of the relationship between collaborative innovation and innovation performance: The role of formal and informal institutions. *Technovation, 124*. <https://doi.org/10.1016/j.technovation.2023.102740>
- Yerizal, Y., & Septaria, V. (2025). Digital business model innovation in SMEs: A systematic literature review. *Al-Kharaj: Journal of Islamic Economic and Business, 7*(4). <https://doi.org/10.24256/kharaj.v7i4.8692>
- Zang, X., Abdullah, R. N., Li, L., & Hussain, I. A. (2024). Leveraging six values for company performance: Adaptation of sustainable business model innovation strategies in Chinese electric vehicle brand enterprises. *World Electric Vehicle Journal, 15*(11), 526. <https://doi.org/10.3390/wevj15110526>
- Zhang, M., & Qi, Y. (2023). Vertical network relationships, technological capabilities, and innovation performance: the moderating role of strategic flexibility. *Sustainability, 15*(14), 11110. <https://doi.org/10.3390/su151411110>
- Zhang, J., & Zhang, Z. (2024). AI in teacher education: Unlocking new dimensions in teaching support, inclusive learning, and digital literacy. *Journal of Computer Assisted Learning, 40*(4), 1871-1885. <https://doi.org/10.1111/jcal.12988>