



The Role of Strategic Adaptation as a Mediator in the Relationship Between Digital Transformation, Innovation Capability, and MSME Competitiveness

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Abstract. This study aims to analyze the influence of digital transformation and innovation capabilities on the competitiveness of MSMEs and examine the role of strategic adaptation as a mediating variable. This study uses a quantitative approach with a survey method of 230 MSME selected purposive sampling techniques. Data was analyzed using SEM-PLS. The results show that digital transformation and Innovation capabilities have a positive and significant effect on the strategic adaptation and competitiveness of MSMEs. In addition, strategic adaptation has a positive and significant effect on the competitiveness of MSMEs. Indirect effect test showed that strategic adaptation significantly mediated the relationship between digital transformation and the competitiveness of MSMEs and mediated the relationship between innovation capabilities and the competitiveness of MSMEs. The findings of the study confirm that increasing the competitiveness of MSMEs is not enough only through the adoption of digital technology and innovation development, but also requires the ability to adapt strategies, business models, marketing, operations, and human resource competencies to changes in the business environment. This study provides an implication that strengthening digital capabilities and innovation needs to be integrated with strategic adaptability so that MSMEs are able to build and maintain competitive advantages in a sustainable manner.

Keywords: Digital Transformation; Innovation Capabilities; MSME Competitiveness; SEM-PLS; Strategic Adaptation.

1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) have a strategic role in supporting economic growth, job creation, and equitable distribution of economic activities in Indonesia (Redjeki et al., 2025). The existence of MSMEs not only contributes to production and trade activities, but is also one of the important foundations in strengthening the community's economy. Nevertheless, MSMEs face an increasingly dynamic business environment due to technological developments, changes in consumer preferences, increasing competition intensity, and the emergence of various digital-based business models (Mulyeni et al., 2024). This condition requires MSMEs to not only maintain their operational activities, but also to be able to develop strategies that allow businesses to adapt and create sustainable advantages. The development of digital technology has changed the way companies carry out business activities, from production processes, marketing, communication with customers, transactions, to information management. The use of marketplaces, social media, digital payments, business management applications, and data-based technology is part of the increasingly digitized business environment (Otopah et al., 2026). However, the existence of digital technology does not automatically result in increased competitiveness. The ability of MSMEs to integrate

technology into business strategies and processes is an important factor so that investment and use of technology can generate economic benefits.

Digital transformation is fundamentally not only about the use of digital devices or platforms, but also about changes in the way organizations create, deliver, and capture value (Probohudono et al., 2025). MSMEs that are able to integrate digital technology with business needs have the potential to have greater flexibility in responding to market changes. On the other hand, the use of technology that is not accompanied by changes in organizational strategies, competencies, and processes can produce limited benefits (Silitonga, 2025). Thus, there is a need to understand the mechanisms that explain how digital transformation can translate into increasing the competitiveness of MSMEs. In addition to digital transformation, innovation capabilities are an important factor in building and maintaining the competitiveness of MSMEs. Innovation capabilities show the ability of organizations to generate new ideas, develop products and processes, improve marketing methods, and implement changes that create value for customers (Kahveci et al., 2026). In a rapidly changing competitive environment, innovation allows MSMEs to offer more relevant products, improve service quality, find new market segments, and differentiate themselves from competitors. Therefore, the higher the ability of MSMEs to manage the innovation process, the greater the opportunity for MSMEs to create a competitive advantage.

Innovation capabilities also face challenges when environmental changes occur quickly and uncertainly. The resulting innovations need to be adjusted to market conditions and internal organizational capabilities (Astuti et al., 2023). It is not enough for MSMEs to only produce new products or services, but also need to have the ability to adjust strategies when there are changes in technology, consumer behavior, competitive conditions, and regulations. In this context, strategic adaptation is an important aspect that can bridge the internal capabilities of MSMEs with the demands of changes in the external environment. Strategic adaptation refers to the ability of MSMEs to make adjustments to strategies, resources, operational processes, business models, and marketing activities in response to changes in the business environment. Adaptation allows organizations to transform their resources and capabilities into strategic actions that are relevant to market conditions. In the context of digitalization, strategic adaptation can be realized through the development of digital marketing, changes in business models, increased operational flexibility, development of human resource competencies, product innovation, and increased ability to respond to changing consumer needs (Fitri et al., 2026).

Digital transformation, innovation capabilities, and competitiveness is thus not always simple or straightforward. Digital transformation can provide resources and information that enable MSMEs to improve performance, but these benefits depend heavily on the organization's ability to adjust business strategies and processes. Similarly, innovation capabilities can generate new ideas, but their impact on competitiveness will be greater if they can be translated into strategies that are appropriate to the changing environment. However, there is still room to deepen understanding of the processes that connect these capabilities to competitiveness, particularly through the role of strategic adaptation as a mediating variable (Putri et al., 2025). Some research tends to place digital transformation or innovation as a factor that directly affects performance, while an organization's ability to make strategic adjustments has not always been placed as a mechanism that explains the relationship. In fact, in the conditions of a dynamic business environment, adaptability can be a differentiating factor between MSMEs that only adopt technology and MSMEs that are able to utilize it to build a competitive advantage.

Research gap is increasingly relevant because the characteristics of MSMEs are different from large-scale companies. MSMEs generally have more limited financial, technological, and human resources, so decisions regarding the use of technology and innovation must be made selectively. These limitations make the ability to make strategic adaptation even more important. MSMEs that are able to allocate resources flexibly, adjust business models, respond to changes in consumer behavior, and develop internal competencies will have a greater chance of benefiting from digital transformation and innovation. Based on this perspective, this study seeks to develop an understanding of the mechanisms of MSME competitiveness formation through the integration of digital transformation, innovation capabilities, and strategic adaptation. Digital transformation and innovation capabilities are seen as capabilities that can provide opportunities for MSMEs to improve their competitive position, while strategic adaptation is placed as a mechanism that allows these capabilities to be translated into effective business responses. This approach provides a more comprehensive perspective than just analyzing the direct influence of each variable on competitiveness.

2. LITERATURE REVIEW

Digital transformation is an organizational change process that involves the use of digital technology to change business processes, the way organizations interact with customers, resource management, and value creation and delivery (Hartati et al., 2026). Digital transformation is not limited to the use of specific technologies, but includes broader changes

to organizational structures, processes, strategies, and business models. For MSMEs, digital transformation provides opportunities to improve operational efficiency, expand market reach, accelerate communication with customers, obtain market information, and develop new business models. However, this process also presents challenges because MSMEs generally have limited resources, digital competencies, and investment capabilities. Studies on technology transformation in SMEs show that transformation is not only related to technology assimilation, but also to business model innovation (Maulana & Muksalmina, 2026). Digital transformation in this study is understood as the ability of MSMEs to integrate digital technology into business activities, including operational processes, marketing, customer interaction, information management, and business development. The better the ability of MSMEs to integrate digital technology with their strategic activities, the greater the opportunity for MSMEs to increase their flexibility and ability to respond to environmental changes.

Innovation capability is an organization's ability to generate, develop, and apply new ideas into products, processes, marketing, and business models (Firmansyah & Wahdiniwaty, 2023). This capability is not only related to the ability to generate ideas, but also the ability of the organization to implement these ideas so as to provide value for customers and improve the company's competitive position. For MSMEs, innovation is important because changing consumer needs and market competition require businesses to constantly update products, services, marketing methods, and operational processes (Larabi, 2025). Innovation capabilities allow MSMEs to utilize knowledge, technology, and market information to produce relevant updates. The innovation capabilities in this study include the ability of MSMEs to develop new products, improve business processes, generate creative ideas, apply new technologies, develop marketing innovations, and respond to market opportunities. These capabilities are expected to improve the ability of MSMEs to create value and maintain competitiveness.

Strategic adaptation is an organization's ability to adjust strategies, structures, resources, business processes, and business models in response to changes in the internal and external environment. Strategic adaptation is important when technological and market changes occur rapidly so that strategies that were previously effective do not necessarily remain in accordance with new conditions. In the context of MSMEs, strategic adaptation can be realized through changes in marketing strategies, product development, business model transformation, the use of digital technology, improving human resource competencies, and operational flexibility (Fitri et al., 2026; Utomo et al., 2025). The latest literature on MSMEs in the digital ecosystem shows that strategic adaptation can include the adoption of digital technology, business model innovation, strengthening relational networks, and improving

organizational learning capabilities. Strategic adaptation in this study is placed as a mediating variable. This position is based on the argument that digital transformation and innovation capabilities are capabilities that provide opportunities, while strategic adaptation is a mechanism that allows MSMEs to translate these opportunities into strategic changes that generate competitiveness. Thus, high digital transformation does not necessarily result in competitiveness if MSMEs are unable to adjust their business strategies. Similarly, innovation capabilities will provide greater benefits when MSMEs are able to implement these innovations in accordance with changing market needs.

Competitiveness is the ability of an organization to create and maintain a superior position over competitors through value creation, quality, efficiency, innovation, and the ability to respond to market changes (Lukita et al., 2026). In the context of MSMEs, competitiveness is not only related to the size of sales, but also the ability of businesses to retain customers, improve the quality of products or services, enter new markets, innovate, and maintain business sustainability. Digital transformation can be one of the strategic resources to increase the competitiveness of MSMEs because it allows companies to expand markets, improve relationships with customers, and increase efficiency. Recent studies show that there is a relationship between digital transformation and the competitiveness of SMEs, but these relationships are influenced by the compatibility between aspects of technology, organization, and company culture (Hurdawaty & Tukiran, 2024). Other research also shows that digital capabilities can drive innovation in digital business models, which further contributes to the competitiveness of SMEs (Masliardi et al., 2023). The findings strengthen the argument that technology needs to be combined with organizational capabilities in order to produce competitive advantages. In this study, the competitiveness of MSMEs reflects the ability of businesses to produce products or services that have advantages, retain customers, improve market position, face competitors, and maintain business sustainability.

3. RESEARCH METHOD

The quantitative approach was chosen because the research aims to examine the relationship and influence between digital transformation, innovation capabilities, strategic adaptation, and competitiveness of MSMEs. This study specifically analyzes the role of strategic adaptation as a mediating variable in the relationship between digital transformation and innovation capabilities on the competitiveness of MSMEs. Data collection was carried out through a survey using a structured questionnaire given to MSME owners or managers as research respondents. The population in this study is MSME actors who have carried out

business activities and have activities related to the use of digital technology in business activities in the city of Bandung. The research sample was determined using purposive sampling techniques, namely the selection of respondents based on certain criteria relevant to the research objectives. Respondent criteria include: (1) are owners or managers of MSMEs; (2) businesses have been operating for at least one year; (3) use digital technology in business activities, such as digital marketing, social media, marketplaces, digital payments, or operational support applications; and (4) willing to provide information needed in research. This study uses 23 indicators representing four constructs, namely Digital Transformation, Innovation Capability, Strategic Adaptation, and MSME Competitiveness. Thus, the minimum number of samples required is 230 respondents (23×10) (Hair et al., 2022). The research data consisted of primary data collected through questionnaires distributed in person and online through Google Forms. Data analysis was carried out using SmartPLS 4 in two stages: evaluation of external models and internal models.

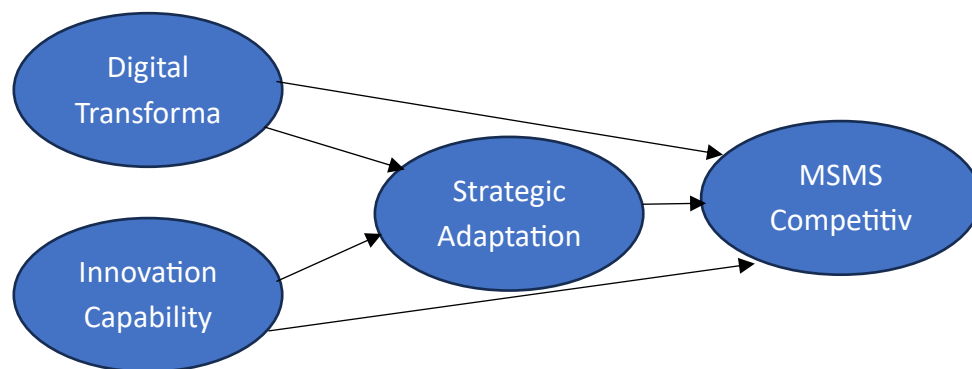


Figure 1. Research model.

4. RESULTS AND DISCUSSION

Table 1. Outer Loadings.

Construct	Indicator	Outer Loading	Decision
Transformasi Digital	Utilization of digital technology	0.765	Valid
	Digitize business processes	0.802	
	Digital marketing	0.899	
	Use of digital platforms	0.796	
	Utilization of data and information	0.819	
	Integration of technology in operations	0.846	
Innovation Capabilities	New product development	0.772	Valid
	Process innovation	0.718	
	Development of creative ideas	0.746	
	Application of new technologies	0.824	
	Marketing Innovation	0.799	

Strategic Adaptation	Product innovation	0.705	Valid
	Business model transformation	0.884	
	Digital marketing development	0.798	
	Operational flexibility	0.844	
	Improvement of human resource competence	0.729	
	Ability to respond to market changes	0.767	
MSME Competitiveness	Sales growth	0.845	Valid
	Increased market share	0.784	
	Customer loyalty	0.799	
	Business productivity	0.806	
	Competitive advantage	0.773	
	Business sustainability	0.739	

Based on table 1, Convergent validity testing is carried out through the outer loading value of each construct indicator. An indicator can be declared to meet the convergence validity if it has an adequate outer loading value, with a value of 0.70 as the general limit used in the evaluation of the measurement model. Based on the test results, all indicators in this study have an outer loading value above 0.70. In the Digital Transformation construct, the outer loading value is in the range of 0.765–0.899. The indicator of the use of digital platforms has the highest value of 0.899, while the use of digital technology has a value of 0.765. These results show that all indicators are able to reflect the Digital Transformation construct well. The Innovation Capability construct has an outer loading value between 0.718–0.883. The highest value is found in the indicator of ability to respond to market opportunities of 0.883, while the lowest value is found in the process innovation indicator of 0.718. All indicators still meet the validity criteria so that they can be maintained in the research model.

In the Strategic Adaptation construct, the outer loading value ranges from 0.705–0.884. The business model transformation indicator shows the highest value of 0.884, while product innovation has the lowest value of 0.705. Even though it has the lowest value in the construct, the value of 0.705 still meets the criteria set so that the indicator is declared valid. Meanwhile, the MSME Competitiveness construct has an outer loading value between 0.739–0.845. The sales growth indicator has the highest value of 0.845, while business sustainability has the lowest value of 0.739. All indicators are above the limit of 0.70, so they can be declared to meet the convergent validity. Overall, the test results show that the 23 indicators used to measure the four research constructs have an outer loading value above 0.70. Thus, all indicators are declared valid and worthy of being maintained for the structural model analysis stage.

Table 2. Construct Reliability and Convergent Validity.

Construct	Cronbach's Alpha	Composite Reliability (CR)	AVE	Decision
Digital Transformation,	0.76	0.76	0.72	Reliable and valid
Innovation Capability	0.78	0.78	0.65	
Strategic Adaptation	0.82	0.82	0.78	
MSME Competitiveness	0.74	0.74	0.69	

Based on the results of the reliability and validity testing of the construct, all research variables showed results that met the feasibility criteria. The value of Cronbach's Alpha and Composite Reliability (CR) in all constructs was above 0.70, while the Average Variance Extracted (AVE) value entirely exceeded 0.50. Thus, the constructs of Digital Transformation, Innovation Capability, Strategic Adaptation, and MSME Competitiveness were declared reliable and valid, so that all instruments were suitable for use for further analysis.

Table 3. Direct Effect.

Relationship	Original Sample	T-Statistics	P-Values	Decision
Digital Transfotmation → Strategic Adaptation	0,785	8,071	0,000	Accepted
Digital Transfotmation → MSME Competitiveness	0,809	10,878	0,000	
Innovation Capability → Strategic Adaptation	0,792	6,895	0,001	
Innovation Capability → MSME Competitiveness	0,884	9,499	0,000	
Strategic Adaptation → MSME Competitiveness	0,769	8,579	0,004	

Based on the results of hypothesis testing in Table 3, hypothesis testing was carried out by analyzing the value of the path coefficient (original sample), t-statistics, and p-values. At a significance level of 5%, the relationship between variables was declared significant if the t-statistical value was greater than 1.96 and the p-value was less than 0.05. Based on the test results, all the direct relationships analyzed showed a positive and significant influence. Digital Transformation had a positive and significant effect on Strategic Adaptation with a path coefficient of 0.785, t-statistics of 8.071, and a p-value of < 0.05. These results show that the increase in digital transformation is followed by an increase in the ability of MSMEs to make strategic adaptations. Digital Transformation also has a positive and significant effect on the competitiveness of MSMEs. The relationship has a path coefficient of 0.809 with t-statistics of 10.878 and a p-value of < 0.05. These findings show that the better the ability of MSMEs to utilize and integrate digital technology, the higher the competitiveness that can be achieved. Furthermore, Innovation Capability is proven to have a positive and significant effect on Strategic Adaptation with a path coefficient of 0.792, t-statistics of 6.895, and p-value of 0.05.

These results show that the ability of MSMEs to produce and implement innovations can strengthen business ability to adjust strategies to changes in the business environment.

Innovation Capability also has a positive and significant influence on MSME Competitiveness, with a path coefficient of 0.884, t-statistics of 9.499, and p-value of < 0.05 . This relationship is the largest path coefficient among the direct relationships in the research model. The findings show that innovation capability is one of the important factors in increasing the competitiveness of MSMEs. Meanwhile, Strategic Adaptation has a positive and significant effect on MSME Competitiveness with a path coefficient of 0.769, t-statistics of 8.579, and p-value < 0.05 . These results show that the ability of MSMEs to adjust strategies, business models, marketing, operations, and human resource competencies can improve business capabilities in facing competition. Overall, the test results show that digital transformation and innovation capabilities not only have a direct relationship with MSME competitiveness, but also have a positive relationship with strategic adaptation. Furthermore, strategic adaptation has been proven to have a positive influence on the competitiveness of MSMEs. The relationship pattern provides an empirical basis to further test the role of strategic adaptation as a mediating variable through the analysis of indirect influences.

Table 4. In Direct Effect.

Relationship	Original Sample	T-Statistics	P-Values	Decision
Digital Transformation $\longrightarrow$ Strategic Adaptation	0,709	11,877	0,000	Accepted
$\longrightarrow$ MSME Competitiveness				
Innovation Capability $\longrightarrow$ Strategic Adaptation	0,842	14,929	0,000	
$\longrightarrow$ MSME Competitiveness				

Mediation effect testing was carried out to determine the role of Strategic Adaptation in bridging the relationship between Digital Transformation and Innovation Capabilities on the Competitiveness of MSMEs. The test was carried out by analyzing indirect effects through the bootstrapping procedure in SEM-PLS. The indirect effect was declared significant if the t-statistical value was greater than 1.96 and the p-value was less than 0.05. The test results showed that Digital Transformation had a positive and significant indirect influence on the Competitiveness of MSMEs through Strategic Adaptation. The value of the indirect influence coefficient was 0.709 with t-statistics of 11.877 and the p-value < 0.05 . These results show that the increase in digital transformation can strengthen the ability of MSMEs to make strategic adaptations, which further contributes to increasing competitiveness. Thus, Strategic Adaptation is proven to mediate the relationship between Digital Transformation and MSME Competitiveness. Furthermore, Innovation Capability shows a positive and significant indirect influence on the Competitiveness of MSMEs through Strategic Adaptation. The value of the

indirect influence coefficient is 0.842 with a t-statistic of 14.929 and a p-value of < 0.05 . This finding shows that innovation capabilities can increase the competitiveness of MSMEs through the ability of businesses to make strategic adjustments to changes in the business environment. The higher the ability of MSMEs to produce and implement innovation, the greater their ability to make strategic adaptations and ultimately increase competitiveness

Digital transformation in the context of MSMEs is not only related to the use of digital devices or platforms, but also reflects changes in the way organizations carry out business activities and respond to market needs. Digital technology can strengthen the ability of MSMEs to obtain information about changing customer needs, market developments, and competitor activities. This information can then be used to make decisions and make adjustments to business strategies. Research on digital transformation in SMEs also shows that sensing, seizing, and reconfiguring skills are an important part of the success of digital transformation, because technology needs to be followed by changes in organizational capabilities and resource configurations. The results of this study are in line with research (Aghazadeh et al., 2024) on MSMEs in Indonesia which found that digital transformation has a positive and significant effect on strategic agility. Hasil penelitian ini sejalan dengan penelitian.

Innovation capabilities have a positive and significant effect on strategic adaptation. The ability of MSMEs to generate new ideas, develop products, improve processes, apply new technologies, and conduct marketing innovations can strengthen the ability of businesses to adapt to environmental changes. Innovation capabilities can be understood as a form of dynamic ability because they allow organizations to update their resources and activities to remain relevant to changes in the environment. MSMEs that have innovation capabilities not only maintain existing products and processes, but also have a tendency to look for new alternatives when facing changing consumer needs, technology, and competition. The ability of MSMEs to create and implement innovation is a very important factor in building competitiveness. Innovation capabilities allow MSMEs to produce products and services that are more in line with consumer needs, improve process quality, develop more effective marketing strategies, and create differentiators compared to competitors. In increasingly dynamic competition conditions, the ability to continuously update products and processes is an important source for the sustainability of competitive advantage. The findings are in line with recent research showing that innovation capability significantly increases competitive advantage and market performance in SMEs (Selfiyani et al., 2026). Thus, the results of the study imply that it is not enough for MSMEs to adopt digital technology, but also need to develop the ability to use this technology as the basis for creating innovation. The combination

of technology and innovation will increase the chances for MSMEs to produce value that is difficult for competitors to replicate.

Strategic adaptation has a positive and significant effect on the competitiveness of MSMEs. These findings show that the ability of MSMEs to adjust strategies, business models, digital marketing, operational processes, human resource competencies, and responses to market changes can improve the ability of businesses to face competition. In the perspective of Dynamic Capability Theory, strategic adaptation reflects the organization's ability to reconfigure, i.e. adjust and recombine its resources to suit changes in the environment. MSMEs that are able to make adjustments quickly will have a greater chance of maintaining product relevance, meeting consumer needs, and taking advantage of new market opportunities. These findings are in line with research (Putri et al., 2025) which found that strategic agility has a positive and significant effect on sustainable competitive advantage in Indonesian MSMEs. The study also shows that adaptive agility is an important part in transforming organizational capabilities and digital transformation into competitive advantage. This result is in line with recent research that found that strategic agility plays a mediator in the relationship between digital transformation and sustainable competitive advantage in Indonesian MSMEs. The research shows that digital transformation does not stop at technology adoption, but needs to be followed by the ability of organizations to move adaptively in the face of environmental changes (Aziz & Triono, 2026). Thus, strategic adaptation can be seen as a transformational mechanism that transforms the potential benefits of digital transformation into a competitive advantage.

Digital Transformation and Innovation Capability are two strategic capabilities that play an important role in increasing the competitiveness of MSMEs. Digital transformation provides access to new technologies, information, and business channels, while innovation capabilities allow MSMEs to generate updates in products, processes, marketing, and business models. However, both capabilities will provide more optimal benefits when supported by strategic adaptability. Findings regarding the mediating role of Strategic Adaptation are an important contribution to this research. The competitiveness of MSMEs is not solely formed through the ownership of technology or the ability to generate innovation, but through the ability of MSMEs to transform and adjust these resources into relevant business strategies. This perspective is in line with the Dynamic Capability Theory which emphasizes the importance of organizational capabilities to sensing, seizing, and reconfiguring in the face of a changing environment. Thus, this study strengthens the argument that in a digital business environment, MSMEs need to develop an integrated approach between digital transformation, innovation

capabilities, and strategic adaptation. Technology provides opportunities, innovation creates new value, while strategic adaptation ensures that these opportunities and values can be translated into strategies that are in accordance with market changes. The combination of these three can ultimately strengthen the competitiveness and sustainability of MSMEs.

5. CONCLUSION AND RECOMMENDATIONS

Digital Transformation has a positive and significant influence on Strategic Adaptation. These findings show that the better the ability of MSMEs to utilize and integrate digital technology into business activities, the greater the ability of MSMEs to adjust strategies, operational processes, marketing, and business models to changes in the environment. Digital Transformation has been proven to have a positive and significant effect on the competitiveness of MSMEs. The use of digital technology provides opportunities for MSMEs to increase efficiency, expand market reach, increase interaction with customers, and respond to changes in market needs more quickly. Thus, digital transformation is one of the important factors in strengthening the competitive position of MSMEs in the midst of an increasingly dynamic business environment. Furthermore, Innovation Capability has been proven to have a positive and significant effect on Strategic Adaptation. These results show that the ability of MSMEs to generate new ideas, develop products, improve processes, implement new technologies, and carry out marketing innovations can increase the ability of businesses to adjust to changes in the business environment. Innovation capabilities allow MSMEs not only to maintain their existing ways of working, but also to develop new alternatives to deal with changing consumer needs and competition.

The mediation effect test showed that Strategic Adaptation significantly mediated the relationship between Digital Transformation and MSME Competitiveness. These findings show that the benefits of digital transformation on competitiveness do not only come from the use of technology itself, but also from the ability of MSMEs to translate the technology into changes in business strategies and processes that are in accordance with environmental demands. Strategic Adaptation has also been proven to mediate the relationship between Innovation Capability and MSME Competitiveness. This means that innovation ability will make a greater contribution to competitiveness when the innovation is followed by the ability of MSMEs to adapt the strategy to market changes. Thus, strategic adaptation becomes an important mechanism that transforms innovation capabilities into competitive advantages. Overall, this study shows that Digital Transformation and Innovation Capability are important factors in increasing the Competitiveness of MSMEs, while Strategic Adaptation plays a role

as a mechanism that strengthens the process. These findings confirm that it is not enough to increase the competitiveness of MSMEs only through technology adoption or innovation development, but it needs to be accompanied by the ability of organizations to make flexible and sustainable strategic adjustments. Therefore, MSMEs need to develop digital capabilities, strengthen innovation culture, and increase strategic flexibility in order to be able to deal with technological changes, consumer behavior, and competitive dynamics in a sustainable manner.

REFERENCES

- Aghazadeh, H., Zandi, F., Amoozad Mahdiraji, H., & Sadraei, R. (2024). Digital transformation and SME internationalisation: unravelling the moderated-mediation role of digital capabilities, digital resilience and digital maturity. *Journal of Enterprise Information Management*, 37(5), 1499–1526. <https://doi.org/https://doi.org/10.1108/JEIM-02-2023-0092>
- Astuti, A. ., Sayudin, & Muharam, A. (2023). Perkembangan Bisnis Di Era Digital. *Jurnal Multidisiplin Indonesia*, 2(9), 2787–2792.
- Aziz, K. A., & Triono, S. P. H. (2026). Business Strategy, Technological Capability, and MSME Performance: The Mediating Role of Competitive Advantage. *UTSAHA: Journal of Entrepreneurship*, 1(18). <https://doi.org/https://doi.org/10.56943/joe.v5i3.1017>
- Firmansyah, D., & Wahdiniwati, R. (2023). Prediction of innovation capability: the role of mediation in the relationship between digital transformation and competitiveness with the PLS-SEM model. *International Journal of Management and Business Intelligence*, 1(2), 125–142. <https://doi.org/https://doi.org/10.59890/ijmbi.v1i2.238>
- Fitri, A., Wirata, M. J., & Sukma, A. (2026). Digital Competence Transformation For MSME Adaptation Toward Consumer Behavior Disruption in Banda Aceh. *Jurnal Manajerial*, 13(02), 422–444. <https://doi.org/https://doi.org/10.30587/jurnalmanajerial.v13i02.11497>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) (3rd ed.)*. Sage.
- Hartati, E., Hermanto, D., & Susanto. (2026). *Tranformasi Digital di Indonesia*. CV Banyubening Cipta Sejahtera.
- Hurdawaty, R., & Tukiran, M. (2024). Strategies to Increase the Competitiveness of Micro, Small and Medium Enterprises (MSMES): A narrative literature review. *South Asian Journal of Social Studies and Economics*, 21(1), 112–125. <https://doi.org/10.9734/SAJSSE/2024/v21i1768>
- Kahveci, E., Gürgür, T., & Avunduk, Z. B. (2026). From Digital Transformation to Sustained Competitive Advantage: How Strategic Orientation, Technology Sophistication, and Adaptive Capability Drive Operational Efficiency. *Administrative Sciences*, 16(8), 401. <https://doi.org/10.3390/admsci16080401>

- Larabi, C. (2025). The role of innovation capability and strategic orientation to achieve competitive advantage: the mediating effect of strategic renewal in SMEs. *Journal of Strategy and Management*, 18(4), 821–848. <https://doi.org/https://doi.org/10.1108/JSMA-07-2025-0287>
- Lukita, C., Kareem, Y. M., & Rawat, B. (2026). The dynamics of adaptation and innovation of msme in facing changes in consumer behavior post pandemic. *Startupreneur Business Digital (SABDA Journal)*, 5(1), 23–32. <https://doi.org/https://doi.org/10.33050/sabda.v5i1.1015>
- Masliardi, A., Effendi, M., Ningrum, P. A., Hasnidar, H., & Mala, I. K. (2023). Digital Disruption: Exploring the Dynamics of Marketing in the Digital Age. *Journal of Management & Business*, 6(2).
- Maulana, R., & Muksalmina, N. (2026). Analysis of Digital Adaptation Strategy Formulation Based on the Resource-Based View (RBV) and Diffusion of Innovation (DOI) for Sustainable Competitive Advantage in Rural MSMEs in Indonesia. *Indonesian Journal Economic Review*, 6(2), 788–794. <https://doi.org/https://doi.org/10.59431/ijer.v6i2.825>
- Mulyeni, S., Handayani, R., Nurjamad, M. A., & Herlina, H. (2024). Assistance for SMEs in Obtaining Business Legality through OSS RBA in Cimahi City West Java. *Jurnal Pengabdian Masyarakat*, 5(1), 84–89. <https://doi.org/10.32815/jpm.v5i1.1261>
- Otopah, A. A., Tulasi, E. E., Amofah, O., & Asare-Yeboah, I. T. (2026). Driving SMEs performance through digital transformation: the mediating role of competitive strategy and adaptive capability. *Journal of Strategy and Management*, 19(2), 251–269. <https://doi.org/https://doi.org/10.1108/JSMA-03-2025-0089>
- Probohudono, A. N., Suhardjanto, D., Aligarh, F., Chayati, N., & Putra, A. A. (2025). Navigating MSMEs' performance through innovation and digital IT capabilities in business strategy. *Social Sciences & Humanities Open*, 12. <https://doi.org/https://doi.org/10.1016/j.ssaho.2025.101810>
- 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/https://doi.org/10.23917/reaksi.v10i3.5345>
- Redjeki, F., Himawan, I. S., Mulyeni, S., & Herlina, H. (2025). Training In Creating Business Identification Number To Increase The Capacity Of MSMEs In Gadobangkong. *Darmabakti Cendekia: Journal of Community Service and Engagements*, 7(1), 30–36. <https://doi.org/10.20473/dc.V7.I1.2025.30-36>
- Selfiyan, S., Hernawan, E., & Herijawati, E. (2026). Digital Transformation and MSME Competitiveness: Examining the Mediating Effect of Innovation Management (A PLS-SEM Study in Indonesian MSMEs). *Indonesian Journal of Islamic Economics and Finance*, 6(1), 249–268. <https://doi.org/https://doi.org/10.37680/ijief.v6i1.9545>
- Silitonga, A. I. (2025). *Bisnis Digital, Strategi, Inovasi dan Transformasi*. CV. Yayasan Ilmu.
- Utomo, P., Situmorang, R., Prihanto, Y. J. ., & Sundjaja, A. . (2025). The transformative impact of digital technologies on entrepreneurial decision-making and strategic adaptation. *Global Business & Finance Review*, 30(2), 127–137. <https://doi.org/10.17549/gbfr.2025.30.2.127>