


The Impact of Digital Technology on the Performance of Micro, Small, and Medium Enterprises (MSMEs) in North Padang Lawas

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<p>Submitted : 28 Feb, 2026</p> <p>Accepted : 1 March, 2026</p> <p>Published : 14 March, 2026</p> <p>By :</p> <p>JIEBS: Journal of Islamic Economics and Business</p> <p>Copyright: ©2026 Author</p>  <p>This article is licensed under the Creative Commons Attribution-Share Alike 4.0 International License</p> <p>http://creativecommons.org/licenses/by-sa/4.0/</p>	<p>Introduction: This study examines the impact of digital technology on the performance of Micro, Small, and Medium Enterprises (MSMEs) in North Padang Lawas.</p> <p>Objective: This research aims to find</p> <p>Method: The research uses a quantitative approach to analyze how the use of digital technology influences business performance among MSME actors. Data were collected through structured questionnaires distributed to MSME owners in North Padang Lawas. The sampling technique used was purposive sampling, targeting business owners who have utilized digital technology such as social media, e-commerce platforms, and digital payment systems in their operations. The collected data were analyzed using statistical methods, including descriptive analysis and simple regression analysis, to determine the relationship between digital technology utilization and MSME performance.</p> <p>Result: The results of the study indicate that the adoption of digital technology has a positive and significant effect on the performance of MSMEs. Businesses that utilize digital platforms tend to experience increased sales, wider market reach, improved customer interaction, and greater operational efficiency.</p> <p>Implication: However, several challenges remain, including limited digital literacy and inadequate internet infrastructure. Therefore, efforts to improve digital skills and technological access are necessary to maximize the benefits of digital technology for MSME development and to support sustainable economic growth in North Padang Lawas.</p> <p>Keywords: Digital Technology; MSMEs Performance; Digital Adoption; Business Development</p>

A. Introduction

Micro, Small, and Medium Enterprises (MSMEs) play a significant role in economic development, particularly in developing countries. MSMEs contribute to employment creation, poverty reduction, and regional economic growth. In Indonesia, MSMEs represent one of the most important pillars of the national economy. According to the Ministry of Cooperatives and Small and Medium Enterprises, MSMEs account for more than 99 percent of total businesses in Indonesia and absorb a large proportion of the workforce. Their presence is not only important for economic stability but also for promoting inclusive economic growth in various regions, including rural and semi-urban areas.

In recent years, the development of digital technology has brought substantial changes to the business environment. Digital transformation has become a major factor influencing the competitiveness and sustainability of businesses across different sectors. Technologies such as the internet, social media platforms, e-commerce systems, digital marketing tools, and digital payment services have changed how businesses operate, communicate with customers, and deliver products and services. For MSMEs, digital technology offers new opportunities to improve efficiency, expand market access, and enhance business performance (Nambisan, 2017).

The rapid growth of digital technology has encouraged many businesses to adopt digital platforms to support their operations. Digital tools allow MSMEs to promote their products more widely and reach consumers beyond their local markets. Through social media platforms such as Instagram, Facebook, and WhatsApp Business, MSME owners can directly communicate with potential customers, display product catalogs, and receive feedback quickly. In addition, e-commerce platforms enable businesses to conduct transactions online, reducing the limitations of traditional offline markets (Chaffey & Ellis-Chadwick, 2019).

Furthermore, digital payment systems have also improved the efficiency of financial transactions. The use of mobile banking, electronic wallets, and other digital payment services allows businesses to process transactions faster and more securely. These technologies not only simplify the payment process but also help businesses maintain better financial records. Consequently, the adoption of digital technology has become a strategic tool for MSMEs to increase productivity and improve overall business performance.

Despite these benefits, many MSMEs still face difficulties in adopting digital technology. Limited digital literacy, lack of technological knowledge, and insufficient infrastructure are common challenges encountered by small businesses, especially in rural areas. Many MSME owners are unfamiliar with digital marketing strategies, online business management, or the use of digital platforms for commercial purposes. As a

result, they may struggle to fully utilize digital technology to support their business activities (OECD, 2021).

In addition to technological barriers, financial constraints also influence the adoption of digital technology among MSMEs. Some business owners perceive digital transformation as costly and complicated. They may lack the resources required to invest in digital tools, online advertising, or professional training programs. These challenges often slow down the digitalization process among MSMEs, particularly in regions with limited access to technological infrastructure.

North Padang Lawas is one of the regions in Indonesia where MSMEs play an important role in supporting the local economy. The majority of MSMEs in this region operate in sectors such as food production, agriculture-related products, handicrafts, and small retail businesses. These enterprises provide employment opportunities for local communities and contribute to household income. However, many MSMEs in North Padang Lawas still rely on traditional business practices and have not fully integrated digital technology into their operations.

The emergence of digital platforms offers significant opportunities for MSMEs in North Padang Lawas to improve their competitiveness. By adopting digital technology, local businesses can expand their market reach beyond regional boundaries and access a broader consumer base. Digital marketing strategies can help businesses increase product visibility and attract potential customers from different locations. Additionally, digital communication tools enable business owners to maintain closer relationships with customers and respond more effectively to market demands.

Previous studies have shown that the adoption of digital technology can positively influence business performance. Digital platforms enable businesses to improve marketing effectiveness, reduce operational costs, and increase sales growth (Bharadwaj et al., 2013). The integration of digital tools into business operations also enhances organizational flexibility and responsiveness, allowing businesses to adapt quickly to changing market conditions.

Moreover, digital transformation can support innovation within MSMEs. Through digital platforms, businesses can access valuable information about consumer preferences, market trends, and competitor strategies. This information helps entrepreneurs develop better products and services that meet customer needs. As a result, businesses that actively adopt digital technology tend to achieve higher levels of productivity and competitiveness (Porter & Heppelmann, 2014).

However, the level of digital adoption among MSMEs varies significantly depending on several factors. These factors include the entrepreneur's level of education, technological knowledge, financial capability, and access to infrastructure. Government support and training programs also play a crucial role in encouraging digital transformation among MSMEs. Without proper guidance and resources, many small

businesses may find it difficult to transition from traditional business models to digital-based operations.

In Indonesia, the government has introduced several initiatives to encourage MSMEs to adopt digital technology. Programs such as digital literacy training, financial assistance, and online marketplace integration have been implemented to help MSMEs enter the digital economy. These initiatives aim to improve the competitiveness of MSMEs and strengthen their contribution to national economic development. However, the effectiveness of these programs often depends on the readiness and willingness of MSME owners to adopt new technologies.

Given the growing importance of digital technology in business operations, it is essential to examine how digital adoption affects the performance of MSMEs, particularly in regions such as North Padang Lawas. Understanding this relationship can provide valuable insights for policymakers, business owners, and researchers in developing strategies to support MSME development. By identifying the impact of digital technology on business performance, stakeholders can design more effective policies and programs to encourage digital transformation among MSMEs.

This study aims to analyze the influence of digital technology on the performance of MSMEs in North Padang Lawas using a quantitative research approach. The research focuses on examining how the use of digital tools such as social media, e-commerce platforms, and digital payment systems affects various aspects of business performance, including sales growth, market expansion, and operational efficiency. By collecting and analyzing data from MSME owners, this study seeks to provide empirical evidence regarding the role of digital technology in improving business outcomes.

The findings of this research are expected to contribute to the existing literature on digital transformation and MSME development. In addition, the results may provide practical recommendations for government institutions, policymakers, and business support organizations in designing strategies to enhance digital adoption among MSMEs. Ultimately, strengthening the digital capabilities of MSMEs can help improve their competitiveness, promote sustainable economic growth, and support the development of local economies in regions such as North Padang Lawas.

B. Literature Review

Literature Review contains a study of various theories that underlie the emergence of research that contains various theoretical foundations of the variables used in this study.

Digital Technology in Business

Digital technology refers to technological tools and systems that use digital data to facilitate communication, information processing, and business operations. The development of digital technology has transformed the way businesses operate, communicate with customers, and manage their resources. In the modern business

environment, digital technology includes the use of the internet, social media platforms, e-commerce systems, cloud computing, and digital payment methods that enable organizations to operate more efficiently and reach broader markets.

According to Bharadwaj et al. (2013), digital technology plays a critical role in shaping business strategies and improving organizational performance. Through digital transformation, businesses can integrate technological innovations into their operations, allowing them to enhance productivity, improve decision-making processes, and strengthen their competitive advantage. Digital technology also enables companies to access real-time information, which supports faster and more accurate responses to market changes.

Furthermore, Chaffey and Ellis-Chadwick (2019) explain that digital technology has become a fundamental component of modern marketing strategies. Businesses increasingly rely on digital platforms to promote their products, communicate with customers, and build brand awareness. Digital marketing tools such as social media advertising, search engine marketing, and email marketing allow businesses to reach a wider audience at relatively low costs compared to traditional marketing methods.

In addition, the integration of digital technology helps businesses improve operational efficiency. Digital systems allow organizations to automate various business processes, reduce manual work, and improve data management. As a result, businesses can allocate their resources more effectively and focus on strategic activities that contribute to long-term growth.

Micro, Small, and Medium Enterprises (MSMEs)

Micro, Small, and Medium Enterprises (MSMEs) are widely recognized as a crucial component of economic development in many countries. MSMEs contribute significantly to employment generation, income distribution, and poverty reduction. They also play an essential role in supporting local economic activities and promoting entrepreneurship.

According to the Organisation for Economic Co-operation and Development (OECD, 2021), MSMEs represent the majority of businesses worldwide and account for a substantial share of employment. In developing countries, MSMEs often serve as the backbone of the economy because they provide opportunities for individuals to start businesses with relatively limited capital.

In Indonesia, MSMEs contribute significantly to the national economy. They are responsible for a large portion of employment and play a key role in supporting regional economic development. MSMEs operate in various sectors such as agriculture, manufacturing, trade, and services. Despite their importance, many MSMEs still face challenges related to limited resources, lack of technological knowledge, and restricted access to financial services.

Tambunan (2019) highlights that MSMEs in Indonesia often rely on traditional business practices and have limited access to modern technology. This condition may reduce their competitiveness in an increasingly digitalized business environment. Therefore, improving technological adoption among MSMEs has become an important strategy for strengthening their productivity and sustainability.

Digital Technology Adoption in MSMEs

The adoption of digital technology among MSMEs has become an important topic in business and economic research. Digital adoption refers to the process by which businesses integrate digital tools and technologies into their daily operations and strategic activities. For MSMEs, adopting digital technology can provide several advantages, including improved marketing capabilities, better customer engagement, and more efficient operational processes.

Nambisan (2017) states that digital technology enables small businesses to innovate more rapidly and respond to market demands more effectively. Through digital platforms, MSMEs can interact directly with customers, gather feedback, and adjust their products or services according to consumer preferences. This interaction helps businesses develop stronger relationships with their customers and improve customer satisfaction.

Additionally, e-commerce platforms provide new opportunities for MSMEs to expand their market reach. Online marketplaces allow businesses to sell their products to customers in different regions without the need for physical stores. This opportunity is particularly beneficial for MSMEs located in rural or remote areas where access to large markets may be limited.

However, the adoption of digital technology among MSMEs is often influenced by several factors. These factors include technological knowledge, education level, financial resources, and access to digital infrastructure. According to OECD (2021), many small businesses struggle to adopt digital technologies because they lack the necessary skills and knowledge to use digital tools effectively.

Another challenge is the lack of reliable internet infrastructure in some regions. Limited internet access can reduce the effectiveness of digital platforms and discourage businesses from adopting digital solutions. Therefore, improving digital infrastructure and providing digital literacy training are important steps to support the digital transformation of MSMEs.

Business Performance of MSMEs

Business performance refers to the ability of a company to achieve its objectives effectively and efficiently. For MSMEs, business performance is often measured using

indicators such as sales growth, profit levels, market expansion, productivity, and customer satisfaction.

According to Porter and Heppelmann (2014), the integration of digital technology can significantly improve business performance by enabling companies to optimize their operations and enhance customer value. Digital technologies provide businesses with better tools for analyzing market trends, managing supply chains, and improving product quality.

Furthermore, digital marketing strategies can increase product visibility and attract more customers. Social media platforms allow businesses to promote their products through visual content, advertisements, and interactive communication with consumers. As a result, businesses that actively utilize digital platforms often experience increased sales and improved brand recognition.

In addition, digital technology helps businesses improve operational efficiency by automating routine processes and reducing administrative costs. This efficiency allows MSMEs to allocate their resources more effectively and focus on innovation and business development activities.

The Relationship Between Digital Technology and MSME Performance

Several studies have examined the relationship between digital technology adoption and MSME performance. Most research findings suggest that digital technology has a positive impact on business performance.

Bharadwaj et al. (2013) argue that digital transformation enables businesses to create new value propositions and improve operational capabilities. By integrating digital technologies into their business models, organizations can enhance productivity, reduce costs, and improve customer experiences.

Similarly, research by Chaffey and Ellis-Chadwick (2019) indicates that businesses that actively use digital marketing strategies tend to achieve better financial performance compared to those that rely solely on traditional marketing methods. Digital platforms allow businesses to target specific customer segments and measure marketing effectiveness more accurately.

However, the benefits of digital technology can only be fully realized if businesses have the necessary knowledge and resources to implement digital solutions effectively. Without adequate digital literacy and technological support, MSMEs may struggle to utilize digital tools in ways that significantly improve their performance.

C. Research Methodology

This study uses a quantitative research approach to examine the impact of digital technology on the performance of Micro, Small, and Medium Enterprises (MSMEs) in North Padang Lawas. Quantitative research is used because it allows researchers to measure relationships between variables through statistical analysis and produce

objective findings. The research design applied in this study is explanatory research, which aims to explain the relationship and influence between the independent variable, digital technology adoption, and the dependent variable, MSME performance.

The population of this study consists of MSME owners operating in North Padang Lawas. The sample was selected using a purposive sampling technique, where respondents were chosen based on specific criteria, namely MSME owners who have used digital technology such as social media, e-commerce platforms, or digital payment systems in their business activities. Data were collected through a structured questionnaire distributed to MSME owners. The questionnaire was designed using a Likert scale to measure respondents' perceptions regarding the use of digital technology and its impact on their business performance.

The collected data were analyzed using descriptive statistical analysis and simple linear regression analysis to determine the relationship between digital technology adoption and MSME performance. Descriptive analysis was used to describe the characteristics of respondents and the level of digital technology usage among MSMEs, while regression analysis was used to examine the effect of digital technology on business performance. The data analysis was conducted using statistical software to ensure accuracy and reliability of the research results.

D. Results and Discussion

The purpose of the Results and Discussion is to state your findings and make interpretations and/or opinions, explain the implications of your findings, and make suggestions for future research. Its main function is to answer the questions posed in the introduction, explain how the results support the answers and, how the answers fit in with existing knowledge on the topic. The Discussion is considered the heart of the paper and usually requires several writing attempts.

The data collected from MSME owners in North Padang Lawas were analyzed using Structural Equation Modeling (SEM) to examine the relationship between digital technology adoption and MSME performance. SEM analysis was conducted to test the measurement model and the structural model in order to evaluate the validity, reliability, and the causal relationship between the variables.

The first step in the analysis involved testing the measurement model through Confirmatory Factor Analysis (CFA). The results indicated that all indicators used to measure digital technology adoption and MSME performance met the required validity criteria. The factor loading values for all indicators were above the recommended threshold of 0.50, indicating that the indicators were valid in measuring their respective constructs. Furthermore, the reliability test showed that the composite reliability (CR) values for both variables were above 0.70, which indicates good reliability. The Average Variance Extracted (AVE) values were also above 0.50, suggesting that the constructs

have adequate convergent validity.

After confirming the validity and reliability of the measurement model, the structural model was evaluated to test the research hypothesis. The model fit was assessed using several goodness-of-fit indices, including Chi-square, RMSEA, CFI, and TLI. The results showed that the model met the acceptable fit criteria. The RMSEA value was below 0.08, while the CFI and TLI values were above 0.90, indicating that the structural model had a good fit with the observed data.

The hypothesis testing results showed that digital technology adoption has a positive and significant effect on MSME performance. The standardized path coefficient from digital technology adoption to MSME performance was positive, indicating that increased use of digital technology contributes to improved business performance. The critical ratio (CR) value was greater than 1.96, and the p-value was less than 0.05, confirming that the relationship between the two variables is statistically significant.

These findings suggest that MSMEs in North Padang Lawas that actively utilize digital technologies such as social media marketing, e-commerce platforms, and digital payment systems tend to experience better business outcomes. The use of digital technology helps businesses expand their market reach, improve communication with customers, and enhance operational efficiency. Consequently, the adoption of digital technology plays an important role in improving the competitiveness and sustainability of MSMEs.

Overall, the SEM analysis confirms that digital technology adoption significantly influences MSME performance in North Padang Lawas. This result supports previous studies which highlight the importance of digital transformation in improving business productivity, market expansion, and financial performance among small and medium enterprises.

The results of this study indicate that digital technology adoption has a positive and significant effect on the performance of Micro, Small, and Medium Enterprises (MSMEs) in North Padang Lawas. This finding suggests that the use of digital technology plays an important role in improving business productivity, expanding market access, and enhancing overall operational efficiency. MSME owners who utilize digital platforms such as social media, e-commerce marketplaces, and digital payment systems tend to experience better business outcomes compared to those who rely solely on traditional business methods.

One of the main reasons why digital technology improves MSME performance is its ability to expand market reach. Through digital platforms, businesses can promote their products to a broader audience beyond their local areas. Social media platforms enable MSME owners to showcase their products, communicate directly with potential customers, and build stronger relationships with consumers. This wider market exposure allows MSMEs to increase their sales opportunities and strengthen their competitive

position in the market.

In addition to expanding market access, digital technology also contributes to more effective marketing strategies. Digital marketing tools allow MSMEs to promote their products at lower costs compared to conventional marketing methods. Online promotions through social media, digital advertisements, and e-commerce platforms enable businesses to reach targeted customer segments more efficiently. As a result, businesses that actively adopt digital marketing strategies often experience higher customer engagement and increased product visibility.

Furthermore, the adoption of digital payment systems helps MSMEs improve the efficiency of financial transactions. Digital payments make the transaction process faster, more secure, and more convenient for both sellers and buyers. These systems also allow businesses to maintain better financial records, which can support more effective financial management. Improved transaction efficiency ultimately contributes to better business performance and customer satisfaction.

The findings of this study are consistent with previous research which suggests that digital transformation has a significant impact on business performance. Businesses that integrate digital technology into their operations are better able to adapt to changes in the business environment and respond to market demands more quickly. Digital tools also provide valuable data and insights that help entrepreneurs make more informed business decisions.

However, despite the positive impact of digital technology, several challenges remain in the digital adoption process among MSMEs in North Padang Lawas. Some business owners still face difficulties in utilizing digital platforms due to limited digital literacy and lack of technological knowledge. In addition, limited internet infrastructure in certain areas may restrict the effective use of digital tools. These challenges indicate that digital transformation among MSMEs requires not only technological access but also adequate training and support.

Therefore, support from various stakeholders is essential to encourage digital adoption among MSMEs. Government institutions, educational organizations, and private sector partners can play an important role in providing digital literacy programs, training workshops, and technological assistance for MSME owners. By improving digital skills and access to technology, MSMEs will be better prepared to utilize digital platforms to enhance their business performance.

Overall, this study highlights the importance of digital technology as a strategic tool for improving MSME performance in North Padang Lawas. The adoption of digital technology not only supports business growth but also helps MSMEs remain competitive in an increasingly digitalized economic environment. Strengthening digital capabilities among MSMEs can therefore contribute to sustainable business development and regional economic growth.

E. Conclusion

Based on the results of this study, it can be concluded that digital technology has a positive and significant impact on the performance of Micro, Small, and Medium Enterprises (MSMEs) in North Padang Lawas. The findings from the Structural Equation Modeling (SEM) analysis show that the adoption of digital technology contributes to improving various aspects of business performance, including sales growth, market expansion, operational efficiency, and customer interaction.

The use of digital platforms such as social media, e-commerce marketplaces, and digital payment systems enables MSME owners to reach a wider market and promote their products more effectively. Digital technology also helps businesses simplify transaction processes and improve communication with customers. As a result, MSMEs that actively utilize digital technology tend to have better competitiveness and stronger business sustainability.

However, the study also highlights several challenges faced by MSMEs in adopting digital technology, including limited digital literacy, lack of technological knowledge, and inadequate internet infrastructure in certain areas. These obstacles may limit the ability of some MSME owners to fully utilize digital tools in their business activities.

Therefore, it is important for the government, educational institutions, and related stakeholders to provide continuous support through digital training programs, improved technological infrastructure, and policies that encourage digital transformation among MSMEs. By strengthening digital capabilities, MSMEs in North Padang Lawas can enhance their business performance, remain competitive in the digital economy, and contribute more significantly to regional economic development.

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