



Digital Transformation Strategy for MSMEs to Increase Competitiveness: An Indonesian Case Study

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ABSTRACT

This study aims to determine the digital transformation strategies of MSMEs to increase competitiveness: A Case Study of Indonesia. This study uses a descriptive qualitative approach with a case study design to explore the digital transformation strategies of MSMEs in Indonesia. Data were collected through in-depth interviews, participant observation, and documentation. Then, they were analyzed using data reduction, data presentation, and conclusion drawing. The results show that the digital transformation strategy involves three main aspects: marketing, operations, and human resource development. MSMEs utilize social media and marketplaces to expand their markets and increase sales. The application of technology to operational aspects, such as digital recording and stock management, helps improve business efficiency and accuracy, while human resource development through training accelerates the digital adaptation process. However, this transformation still faces challenges such as limited infrastructure, low digital literacy, limited human resources and finances, and data security. Therefore, support from the government, the private sector, and the community is needed to create an inclusive digital

ecosystem.

ABSTRACT

Penelitian ini bertujuan untuk mengetahui strategi transformasi digital UMKM untuk meningkatkan daya saing: Studi Kasus Indonesia. Penelitian ini menggunakan pendekatan kualitatif deskriptif dengan desain studi kasus untuk mengeksplorasi strategi transformasi digital UMKM di Indonesia. Data dikumpulkan melalui wawancara mendalam, observasi partisipatif, dan dokumentasi. Kemudian dianalisis menggunakan reduksi data, penyajian data, serta penarikan kesimpulan. Hasil penelitian menunjukkan bahwa strategi transformasi digital melibatkan tiga aspek utama, yaitu pemasaran, operasional, dan pengembangan sumber daya manusia. UMKM memanfaatkan media sosial dan marketplace untuk memperluas pasar serta meningkatkan penjualan. Penerapan teknologi pada aspek operasional, seperti pencatatan digital dan manajemen stok, membantu meningkatkan efisiensi dan akurasi bisnis, sedangkan pengembangan SDM melalui pelatihan mempercepat proses adaptasi digital. Namun, transformasi ini masih menghadapi tantangan seperti keterbatasan infrastruktur, rendahnya literasi digital, keterbatasan SDM dan keuangan, serta keamanan data. Oleh karena itu, diperlukan dukungan pemerintah, swasta, dan masyarakat untuk menciptakan ekosistem digital yang inklusif.

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are a key pillar of the Indonesian economy. Their contribution to Gross Domestic Product (GDP) and employment has long been a key factor in maintaining national economic stability. According to data from the Ministry of Cooperatives and SMEs, MSMEs contribute over 60% of GDP and employ over 97% of Indonesia's workforce.(Prasetyo et al., 2025)This demonstrates the strategic role that MSMEs play, not only as drivers of the local economy but also as a pillar of national economic resilience. However, amidst the rapid development of the digital era and globalization, MSMEs face significant challenges in maintaining their existence, particularly in terms of competitiveness.

Digital transformation is a crucial strategy that needs to be implemented to address these challenges. Digital transformation is a process of change that integrates digital technology into all aspects of a business, including production, marketing, and customer service. In the context of MSMEs in Indonesia, digital

transformation has become an urgent need, along with the rapid development of information and communication technology. This change is not just a trend, but a necessity for MSMEs to survive and thrive in increasingly fierce competition (Angraini et al., 2024). Adopting digital technology provides significant opportunities for MSMEs to expand their markets, improve operational efficiency, and strengthen their competitiveness. (Widyawan Bisma, Barlian Achmad, 2025) However, this process requires the right strategy so that digital transformation is not merely cosmetic but can have a real impact on business growth.

In recent years, the development of e-commerce and social media has created a new business ecosystem. Consumers now conduct more transactions online, requiring MSMEs to adapt to this shift in behavior. Digital platforms such as marketplaces, social media, and digital financial applications have become the primary means for MSMEs to market products, conduct transactions, and build relationships with customers. (Buci Morisson & Aula Ahmad Hafidh Saiful Fikri, 2025) This phenomenon presents a significant opportunity for MSMEs in Indonesia, given the year-on-year growth in the internet user population. However, these opportunities cannot be optimally utilized without a well-planned and targeted digital transformation strategy.

While digital transformation offers numerous benefits, many MSMEs still face obstacles in adopting technology. Common barriers include limited digital knowledge and skills, limited access to technology, and financial constraints on investing in digital tools (Triyanto et al., 2025). In addition, there are still infrastructure gaps, especially in rural and remote areas, which means that not all MSMEs have equal opportunities to utilize digital technology. (Ruslim, 2025) These factors result in most MSMEs falling behind in the competition, especially when compared to larger companies that are more prepared to adopt technology.

The Indonesian government has recognized the importance of digital transformation for MSMEs and has issued various policies and programs to encourage this process. One prominent initiative is the MSME digitalization program, which involves training, mentoring, and providing access to digital platforms (Rusdianman Rauf et al., 2024). This program is expected to improve MSMEs' digital literacy, expand their marketing networks, and improve their business management systems. However, the program's effectiveness still needs to be improved, given the complex challenges they face and the need for a more integrated approach.

The Indonesian case study is interesting to study because of its unique characteristics. Indonesia is an archipelagic nation with a large number of MSMEs spread across various regions at varying levels of development. This situation creates variations in the digital readiness of each MSME. Some MSMEs in urban areas may be quite advanced in utilizing digital technology, while MSMEs in rural areas still struggle to simply access stable internet. This demonstrates that digital transformation strategies cannot be uniform but must be tailored to local conditions and the specific needs of each business.

In the context of global competition, digital transformation is not only about the use of technology but also about changing mindsets and organizational culture. MSMEs need to understand that digital technology is merely a tool, while the success of the transformation is largely determined by the ability of business actors to formulate appropriate strategies (Naufal et al., 2025). This includes understanding digital consumer behavior, managing data for decision-making, and developing innovative business models. Without a deep understanding, technology use will only become an additional burden that adds no value to the business.

Implementing an effective digital transformation strategy can elevate MSMEs to a higher level of competitiveness. By leveraging technology, MSMEs can expand their markets nationally and internationally, accelerate production processes, and improve the quality of customer service. Furthermore, technology enables MSMEs to manage customer and market data more systematically, enabling business decisions based on accurate analysis (Enny Diah Astuti & Rahmi Rosita, 2024). This advantage is very important in an era of competition characterized by speed and accuracy of information.

However, the success of digital transformation is also greatly influenced by support from various parties, including the government, the private sector, and the public. The government plays a role in providing conducive regulations, adequate infrastructure, and sustainable mentoring programs. Meanwhile, the private sector can contribute through strategic partnerships, technology provision, and financing support. This collaboration between parties is key to creating an inclusive digital ecosystem for MSMEs (Nilfatri, 2024).

In the Indonesian case study, one of the main challenges is building awareness and motivation among MSMEs to digitally transform. Many businesses remain comfortable with conventional methods and are reluctant to make changes. Therefore, a persuasive and educational approach is needed to demonstrate the tangible benefits of digital transformation. Furthermore, the training provided must be relevant to the

needs and circumstances of each MSME so they can immediately apply the knowledge gained in their daily business activities.

Rapid technological change also demands that MSMEs continue to innovate and learn. Digital transformation is not a one-step process, but rather a continuous journey. MSMEs must possess a high level of adaptability to keep up with ever-changing technological developments. This requires an open mindset and a desire to continuously improve their personal and business capabilities (Dharta et al., 2025). In this case, the role of communities and business networks is crucial as a means of sharing knowledge and experience.

Digital transformation also has implications for data security and consumer protection. As more transactions are conducted online, the risk of cybercrime and data misuse increases (Nahayatul et al., 2025). Therefore, a digital transformation strategy must include measures to maintain information security and build customer trust. This trust is a key factor in the success of digital businesses, especially for MSMEs building a reputation in the market.

In the long term, digital transformation is expected to strengthen Indonesia's economic structure by creating resilient and highly competitive MSMEs. Through the use of technology, MSMEs can reduce their dependence on local markets and expand their business reach. This will not only increase business revenues but also positively impact the national economy through job creation and improved public welfare (Galib et al., 2024).

Considering the various challenges and opportunities, a digital transformation strategy for MSMEs in Indonesia must be designed comprehensively and sustainably. This strategy must encompass technology, human resources, infrastructure, and regulations, and involve all stakeholders. Only with a holistic approach can digital transformation be an effective tool for increasing MSME competitiveness and strengthening Indonesia's position in the global economy.

Overall, the Indonesian case study provides a clear picture of the importance of digital transformation in strengthening the competitiveness of MSMEs. With its vast number of MSMEs and vast market potential, Indonesia has the potential to become a successful example of digital transformation in the MSME sector. However, this success depends heavily on the ability of all parties to collaborate in formulating the right strategy and ensuring its effective implementation. Thus, digital transformation will not be just a buzzword but a true driving force for the growth and sustainability of MSMEs in Indonesia.

RESEARCH METHODS

This research uses a descriptive qualitative approach with a case study design to explore in depth the digital transformation strategies implemented by Micro, Small, and Medium Enterprises (MSMEs) in Indonesia in an effort to increase competitiveness. This research is exploratory in nature, where researchers seek to discover and understand the strategies implemented by MSMEs, both spontaneous and structured, in facing the challenges of the digital era. This research was conducted on several MSMEs spread across several regions in Indonesia that represent diverse business characteristics, both in terms of business sector, production scale, and level of digital technology utilization. The research locations were selected using purposive sampling considering that these regions have significant MSME development potential and have begun implementing digital technology in their business activities. The research subjects consisted of MSME actors selected using purposive sampling techniques, managers, and related parties such as the cooperative and MSME office, MSME associations, and private parties involved in the digital ecosystem. Data collection techniques used in this study were in-depth interviews, participant observation, and documentation. Then the data analysis techniques used are data reduction, data presentation, as well as drawing conclusions and verification.

RESULTS AND DISCUSSION

Based on research conducted on a number of MSMEs across Indonesia, it was found that the use of digital technology in business activities varies. Some MSMEs have optimally utilized technology, such as using e-commerce platforms, social media, and app-based financial management systems. However, others are still in the early stages, with technology use limited to simple promotional activities such as creating content on social media or using messaging apps to communicate with customers.

The MSMEs studied came from various business sectors, including culinary, fashion, handicrafts, and digital-based services. In general, MSMEs with high levels of digital literacy and access to adequate devices demonstrated greater adaptability in utilizing technology to increase competitiveness. Meanwhile, MSMEs with limited resources, both in terms of devices and skills, tended to experience obstacles in the digital transformation process.

Observations show that digital transformation in MSMEs is driven not only by technological advancements but also by changes in consumer behavior. The COVID-19 pandemic, for example, has

accelerated the adoption of digital technology, as businesses have been forced to shift marketing and sales activities to online platforms. This reinforces the finding that digital transformation is not merely an option but a necessity for MSMEs seeking to survive and compete in the global era.

Digital Marketing Strategies Implemented by MSMEs

Interviews with MSMEs indicate that digital transformation strategies are implemented through several approaches tailored to business characteristics. These strategies can be grouped into three main categories: digital marketing strategies, technology-based operational strategies, and human resource development strategies.

1. Digital Marketing Strategy

The majority of MSMEs utilize social media as a primary channel for marketing their products and building relationships with consumers. Platforms like Instagram, Facebook, and TikTok are preferred due to their ease of use, relatively affordable costs, and broad audience reach. The digital marketing strategies implemented include creating engaging, creative content, collaborating with local influencers to strengthen brand awareness, and using paid advertising to increase promotional reach and sales potential. This is in line with research conducted by (Nainggolan et al., nd) He stated that MSMEs utilize social media for branding, product promotion, and customer interaction. This is effective due to its low cost and wide reach.

Furthermore, some MSMEs are leveraging marketplaces like Shopee, Tokopedia, and Lazada to expand their market and reach consumers beyond their local area. By leveraging various available features, such as flash sales, discount vouchers, and loyalty programs, MSMEs can attract buyers and drive increased sales. This strategy has also proven effective in building long-term relationships with customers, thereby creating a more loyal and sustainable customer base.

2. Technology-Based Operational Strategy

On the operational side, several MSMEs have begun adopting various stock management applications, digital financial record-keeping systems, and software that streamline business management processes. Using applications like BukuKas, Moka POS, or cloud-based platforms allows MSMEs to monitor cash flow in real time, manage inventory more efficiently, and prepare more accurate and structured financial reports. This helps business owners make more informed and strategic business decisions.

This operational transformation not only increases efficiency but also minimizes the risk of human error, which often occurs in manual record-keeping. With a digital system, data can be managed in a more structured and automated manner, reducing the likelihood of errors in stock counts, transaction recording, and financial reporting. This ultimately helps create more transparent, accurate, and reliable operations, while increasing trust between consumers and business partners.

3. Human Resource Development Strategy (HRD)

The success of digital transformation is greatly influenced by the ability of human resources to understand, manage, and optimally utilize technology. Therefore, several MSMEs have taken the initiative to conduct internal training to improve their team's skills, while also participating in mentoring programs organized by the government, the private sector, and educational institutions. This step is crucial for MSMEs to adapt to technological developments and implement them effectively in their business operations.

This training covers aspects of digital marketing, business management, financial literacy, and technical skills such as graphic design and content management. MSMEs with teams with strong digital skills demonstrate significantly more growth than those that rely solely on conventional skills.

Challenges in Digital Transformation of MSMEs

The digital transformation of MSMEs in Indonesia is inextricably linked to a number of challenges that impact their ability and success in adopting and utilizing digital technology. Here are some of the challenges MSMEs face:

1. Limited Access to Technology Infrastructure

Technological infrastructure in some regions remains uneven and underdeveloped, particularly in rural and suburban areas. Limited access to stable and fast internet is a major obstacle to the adoption of digital technology by MSMEs. (Nurzaman et al., 2024) Some areas still experience challenges in consistent access to electricity, a prerequisite for the use of digital technology.

2. Low Level of Digital Literacy

Despite growing awareness of the importance of digital technology, digital literacy levels among MSME owners and employees remain relatively low. A lack of understanding of the benefits and how to use digital technology can hinder the digital transformation process. MSMEs also sometimes struggle to understand and evaluate the various available technology solutions and how to integrate them into their business operations.

3. Limited Human and Financial Resources

Many MSMEs in Indonesia face limited human and financial resources, limiting their ability to adopt digital technologies. Investing in software, employee training, and technology infrastructure can be a significant financial burden for MSMEs. Furthermore, MSMEs may lack the human resources with the skills and technical knowledge necessary to effectively manage and utilize digital technologies.(Sifwah et al., 2024).

4. Concerns about Data Security

Concerns about data security and privacy are often barriers to adopting digital technologies, especially for MSMEs that lack a sufficient understanding of effective data governance and security. They may worry about the potential risks of data breaches or cyberattacks that could threaten their business continuity.(Rahma Asyiffa et al., 2025)

5. Dependence on Conventional Systems

Some MSMEs tend to rely on conventional systems in their operations due to familiarity and a lack of motivation or incentive to transition to digital technology. They may feel comfortable with their familiar ways of working and hesitate to take the risk of adopting new technologies that may require additional investment and time to learn.(Muhamad Rudi Saputra Pratama & Munawaroh, 2025)

6. Social and Cultural Aspects

Social and cultural aspects can also influence the digital transformation of MSMEs in Indonesia. Traditional values and cultural norms can influence MSME owners' attitudes and behaviors toward digital technology. Furthermore, factors such as local customs and value systems can influence consumer preferences and purchasing patterns, which must be considered in MSME digital-based marketing and sales strategies.(Salam & Imilda, 2024)

Efforts Made to Support the Success of Digital Transformation

Addressing the challenges posed by digital transformation for MSMEs requires a holistic and sustainable approach, involving various stakeholders, including the government, academic institutions, financial institutions, and the MSMEs themselves. Here are some initiatives to consider.

1. Strengthening Technology Infrastructure

Local governments and relevant institutions must strive to improve technological infrastructure across Indonesia, particularly in underdeveloped regions. Investment in providing fast and stable internet access, as well as a reliable and equitable electricity supply, should be a top priority. These steps are crucial to supporting the digital activities of the community, including MSMEs, so they can compete and thrive in the digital economy.

2. Improving Digital Literacy

Digital literacy training and education programs need to be expanded and strengthened by governments, academic institutions, and industry players. This training should include a basic understanding of digital technology, the use of various online applications and platforms to support businesses, and the importance of maintaining cybersecurity.(Zikri, 2024)This way, MSMEs can be better prepared to face digital challenges and maximize the opportunities available in the era of digital transformation.

3. Financial and Technical Support

Governments and financial institutions can provide financial support in the form of loans, grants, or special incentives to help MSMEs finance investments in digital technology. This support can be used for equipment purchases, system development, or digital skills development. Furthermore, technical guidance and consulting programs are also crucial to assist MSMEs in managing and utilizing digital technology more effectively and sustainably, thereby increasing productivity and business competitiveness.

4. Increased Awareness of Data Security

Regular data security awareness campaigns and outreach campaigns are needed to help MSMEs understand the various risks they may face and the precautions they should take. These activities can be implemented through workshops, seminars, or the provision of easily accessible online educational materials. The government, relevant institutions, and industry partners can collaborate in providing these programs to better prepare MSMEs to protect their business and customer data in the digital age.

5. Development of Affordable and Easy-to-Use Technology Solutions

Technology companies and software developers need to strive to develop solutions that are affordable, practical, and easy to use for MSMEs. Intuitive interface designs and responsive customer support will make it easier for businesses to utilize technology without requiring in-depth technical skills. This will minimize barriers for MSMEs seeking to adopt digital technology, allowing them to focus more on business development and increasing competitiveness.

6. Promotion and Advocacy of Digital Transformation

The government, academic institutions, and business associations need to actively promote and advocate for digital transformation to increase awareness and interest among MSMEs in adopting digital technology. This effort can be realized through targeted promotional campaigns, organizing exhibitions showcasing digital innovations, and disseminating relevant and easy-to-understand information materials. With a sustainable approach, MSMEs will be more motivated to utilize technology as a means of business development.

The Impact of Digital Transformation on the Competitiveness of MSMEs

Digital transformation has several significant positive impacts on the competitiveness of MSMEs. These impacts can be seen in the following aspects:

1. Increased Market Access

By utilizing digital platforms, MSMEs can reach consumers outside their local area, even penetrating the international market. This broader access provides businesses with the opportunity to introduce their products to a more diverse audience without the need for physical stores in multiple locations. This not only opens up new opportunities to expand their marketing reach but also has the potential to significantly increase sales volume. Furthermore, connectivity to the global market allows MSMEs to understand international consumer trends and adapt their business strategies to become more competitive on the global stage.

2. Operational Efficiency

Digitizing business processes helps MSMEs save time and money in day-to-day business management. For example, digital record-keeping not only reduces common manual errors but also makes it easier for business owners to monitor cash flow and create more accurate financial reports. (Iskandar, 2025) Meanwhile, electronic payment systems speed up transaction processes and provide convenience for consumers, both when purchasing in person and through online platforms. With faster and more efficient processes, MSMEs can focus on product development and marketing strategies, thus encouraging more sustainable business growth.

3. Improved Reputation and Consumer Trust

The presence of MSMEs on digital platforms with the right marketing strategy can build a positive image and strengthen relationships with consumers. Through a consistent presence and relevant content, MSMEs can attract a wider audience. Furthermore, positive customer reviews not only increase consumer trust but also serve as an effective form of promotion by influencing other potential buyers to make transactions.

4. Product and Service Innovation

Digital transformation encourages MSMEs to be more creative and innovative in developing the products and services they offer. For example, leveraging customer data can help understand consumer trends and preferences, thus better tailoring products to market needs. Furthermore, implementing chatbot-based customer service also enables faster and more efficient interactions, thereby increasing customer satisfaction and loyalty.

CONCLUSION

Based on the research results, it can be concluded that digital transformation has become a crucial factor in determining the sustainability and development of MSMEs in an era of global competition. This transformation process involves not only the use of technology for marketing but also encompasses operational management and the development of human resources involved in the business.

First, in terms of digital marketing strategy, the majority of MSMEs have utilized social media platforms like Instagram, Facebook, and TikTok as their primary promotional channels due to their convenience, wide reach, and relatively affordable costs. Utilizing marketplaces like Shopee, Tokopedia, and Lazada has also expanded the MSME market to the national and even international level. This marketing strategy has proven effective in increasing sales and building consumer loyalty through creative content, collaboration with influencers, and the use of digital promotional features like flash sales and discount vouchers.

Second, in terms of technology-based operations, MSMEs are shifting from manual to digital systems by using stock management applications, digital financial record-keeping, and cloud-based software. This move has had a positive impact on increasing efficiency, transparency, and accuracy of business data. The use of technology helps reduce human error and provides a clearer picture of business conditions, making it easier for MSMEs to make strategic decisions.

Third, human resource (HR) development is a key element in the success of digital transformation. Training and mentoring provided by the government, educational institutions, and the private sector have

improved the digital literacy of MSMEs. Human resources skilled in utilizing technology can accelerate the transformation process and lead MSMEs to more significant growth.

However, this study also found that the digital transformation process faces various challenges, such as limited technological infrastructure, low digital literacy, financial constraints, concerns about data security, reliance on conventional methods, and the influence of social and cultural aspects. These challenges pose obstacles that prevent some MSMEs from optimizing technology in their business management.

Overcoming these obstacles requires comprehensive and sustainable efforts. This includes strengthening technological infrastructure, improving digital literacy through training, providing financial and technical support, and developing affordable and easy-to-use technological solutions. The government, private sector, and community must work together to raise awareness and motivate MSMEs to be more open to change and ready to capitalize on digital opportunities.

Digital transformation has had a significant positive impact on the competitiveness of MSMEs, including increased market access, operational efficiency, enhanced reputation and consumer trust, and encouragement to continuously innovate products and services. With the right use of technology, MSMEs can not only survive intense competition but also have the potential to become driving forces for the local and national economy.

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