

Analysis Of Digital Transformation In Improving Msme Performance And Public Services In Indonesia

Rahmat Al Hidayat, Rahmat Fathoni, Herimanto
Sekolah Tinggi Ilmu Administrasi Bengkulu
rahmat@stiabengkulu.ac.id

Abstract- Digital transformation has become a strategic necessity in driving economic growth and improving the quality of public services in Indonesia. This study aims to analyze the role of digital transformation in enhancing the performance of Micro, Small, and Medium Enterprises (MSMEs) and public service delivery, as well as to identify the challenges and optimization strategies involved. The research employs a qualitative approach using a literature review method, drawing data from relevant scientific journals, government reports, and academic publications. The findings reveal that digital transformation significantly improves MSME performance through increased operational efficiency, expanded market access, enhanced competitiveness, and product innovation. In the public sector, digitalization contributes to more efficient, transparent, and accessible services, thereby improving government accountability and responsiveness. However, the implementation of digital transformation still faces several challenges, including uneven digital infrastructure, low digital literacy among human resources, limited technological access, and increasing cybersecurity risks. These obstacles create a gap between the potential benefits of digital transformation and its actual implementation. Therefore, a comprehensive strategy is required to optimize digital transformation, including improving digital literacy, strengthening digital infrastructure, reforming adaptive policies, and enhancing collaboration among stakeholders such as government, private sector, academia, and society. This study concludes that digital transformation not only serves as a technological innovation but also as a key driver for sustainable economic development and improved governance. The findings are expected to provide insights and recommendations for policymakers in formulating effective strategies to accelerate inclusive and sustainable digital transformation in Indonesia.

Keyword: Digital Transformation, MSMEs, Public Services, Digital Literacy, Cybersecurity

I. INTRODUCTION

The development of information and communication technology has brought fundamental changes to various aspects of human life, including the economic and government sectors (Putri & Nurbaiti, 2024). Digital transformation is no longer merely an option but a strategic necessity for organizations to survive and thrive amidst increasingly competitive global dynamics (Wicaksana & Sihite, 2022). This change is marked by a shift from conventional systems to digital-based systems that can improve efficiency, effectiveness, and service quality. Digital transformation has also altered patterns of interaction between government, businesses, and the public, necessitating rapid and sustainable adaptation in the digital era (Badrudin et al., 2022). Digital transformation has become a national priority agenda aimed at driving economic growth and improving the quality of public services (Sepriano et al., 2023). The government has initiated various policies and programs to accelerate digitalization in various sectors, including MSMEs and public services (Sitompul et al., 2025). Digital transformation is seen as a crucial instrument for increasing national competitiveness, expanding market access, and creating a more transparent, accountable, and responsive public service system (Godwin et al., 2024). Furthermore, digitalization plays a role in accelerating data and information integration, which forms the basis for more targeted policymaking.

In the economic sector, particularly for MSMEs, digital transformation offers significant opportunities to improve business performance. As the backbone of the national economy, MSMEs contribute significantly to Gross Domestic Product (GDP) and employment (Astuti & Rosita, 2024). With digital technology, MSMEs can leverage various platforms such as e-commerce, social media, and fintech to expand market reach, improve

operational efficiency, and create product and service innovations. Digital transformation enables MSMEs to not only survive but also thrive in the face of increasingly fierce global competition (Angraini et al., 2024). However, the use of digital technology by MSMEs in Indonesia remains uneven and suboptimal.

One of the main challenges facing the digital transformation of MSMEs is the low level of digital literacy among business owners (Riana et al., 2023). Many MSMEs are still accustomed to conventional methods and lack an adequate understanding of the use of digital technology in their business activities (Maimuna et al., 2024). Furthermore, limited access to digital infrastructure, such as unequal internet access, also poses a barrier to the digitalization process. Other factors such as limited capital, resistance to change, and a lack of integrated policy support also slow down the digital transformation process in the MSME sector (Putra et al., 2023).

On the other hand, digital transformation in the public service sector has also shown significant progress. The government has begun adopting various digital-based systems to improve the quality of public services, such as online administration services, public information systems, and digital-based service applications. This transformation aims to create faster, easier, and more transparent services. Furthermore, digitalization also enables the government to increase bureaucratic efficiency and reduce the potential for irregularities in public services (Schou & Hjelholt, 2018). However, implementing digital transformation in the public sector also faces various equally complex challenges.

One of the main challenges in digitalizing public services is the increasing risk of cybersecurity. As the use of digital technology increases, threats to data and information system security also increase. Cyberattacks can disrupt public service operations and cause significant losses, both in terms of the economy and public trust in the government (Restika & Sonita, 2023). Therefore, strengthening digital security systems is a crucial aspect that must be considered in the digital transformation process (Alfi et al., 2023). Furthermore, the readiness of human resources to manage digital technology is also a determining factor in the success of digital transformation in the public sector.

In addition to internal factors, external challenges also affect the success of digital transformation in Indonesia. Uneven digital infrastructure, particularly in rural and remote areas, is a major obstacle to equitable access to technology (Wahidin & Wati, 2024). This creates a digital divide between urban and rural areas, ultimately leading to inequality in the use of digital technology (Anwar et al., 2024). Furthermore, regulations that are not yet fully adaptive to technological developments also hinder the acceleration of comprehensive digital transformation.

Despite these challenges, digital transformation still holds significant potential to drive economic growth and improve the quality of public services in Indonesia. Digital transformation not only provides short-term benefits but also lays the foundation for sustainable development in the future. Therefore, a comprehensive and collaborative strategy is needed between the government, the private sector, and the public to ensure that digital transformation can proceed optimally and inclusively. Based on this description, there is a gap between the enormous potential of digital transformation and the reality of implementation, which still faces various obstacles. This research is crucial to conduct a more in-depth analysis of how digital transformation plays a role in improving the performance of MSMEs and public services, and to identify the factors influencing its success. The results of this study are expected to contribute to the formulation of more effective policies and strategies in driving digital transformation in Indonesia.

II. LITERATURE REVIEW

1. *The Concept of Digital Transformation*

Digital transformation is the process of integrating digital technology into all aspects of an organization, transforming the way it operates and delivering value to users (Kolasani, 2023). This transformation involves changes to business processes, organizational culture, and business models (Dunleavy & Evans, 2019). Digital transformation aims to increase organizational efficiency, innovation, and competitiveness (Loonam, 2021). Furthermore, digital transformation also enables organizations to respond more quickly to environmental changes.

2. *Digital Transformation for MSMEs*

MSMEs play a vital role in the Indonesian economy, but face various challenges in the digital era. Digital transformation can help MSMEs improve operational efficiency, expand markets, and enhance service quality (Maimuna et al., 2024). However, several obstacles to MSME digital transformation exist, including:

- a. Low digital literacy
 - b. Limited access to technology
 - c. Limited capital
 - d. Uneven infrastructure distribution
3. ***Digital Transformation in Public Services***
Digital transformation in public services aims to improve efficiency, transparency, and the quality of services provided to the public (Kotarba, 2018). The government has begun adopting digital technology for various services such as administration, healthcare, and education. However, digital transformation in public services also faces challenges, particularly related to cybersecurity (Alfi et al., 2023). Cybersecurity risks are a key issue in the implementation of digital technology in the public sector.
 4. ***Challenges of Digital Transformation in Indonesia***
Digital transformation in Indonesia faces various challenges, including uneven digital infrastructure, low digital literacy, complex regulations, and cybersecurity risks.

III. RESEARCH METHODS

This research uses a qualitative approach with a literature review method, aiming to gain an in-depth understanding of the digital transformation phenomenon in the context of MSMEs and public services in Indonesia. Data for this study were collected from various relevant and credible sources, such as scientific journals, government reports, reference books, and academic articles related to the research topic (Pahleviannur et al., 2022). The research process was carried out through several stages, starting with data collection in accordance with the study's focus, followed by data reduction to filter relevant information and eliminate irrelevant data (Bungin, 2007). Next, a systematic data analysis was conducted to identify patterns, relationships, and meanings from the collected data. The results of the analysis were then presented in a structured narrative for easy understanding, before conclusions were drawn to address the research objectives. This approach was chosen because it is able to provide a comprehensive and in-depth picture of the dynamics of digital transformation, both in terms of opportunities and challenges (Sugiyono, 2013).

IV. RESULTS AND DISCUSSION

1. ***The Impact of Digital Transformation on MSME Performance***
Digital transformation has been proven to significantly contribute to improving MSME performance. This is demonstrated through increased operational efficiency, where businesses can automate production processes, financial recording, and inventory management, thereby reducing operational costs and time. Furthermore, the use of digital platforms such as e-commerce and social media enables MSMEs to expand market access more broadly, even to international markets. This directly increases MSME competitiveness, as they can compete with other businesses more openly and competitively. Digital transformation also drives product and service innovation, where businesses are more responsive to consumer needs through digital marketing strategies and personalized services. However, the adoption of digital technology remains uneven, particularly among MSMEs in rural areas, which still face limited digital access and capabilities.
2. ***The Impact of Digital Transformation on Public Services***
Digital transformation in public services has shown significant improvements in service quality. The implementation of digital-based systems enables faster, more efficient, and more integrated administrative processes, thereby reducing bureaucratic red tape. Furthermore, digitalization also increases information transparency because the public can access various services and data openly through government digital platforms. Ease of access to services is a key advantage, as the public is no longer dependent on face-to-face services and can access services anytime and anywhere. However, on the other hand, challenges arise in the form of cybersecurity and data protection risks that require serious attention. Reliance on digital systems also has the potential to cause service disruptions in the event of system failures or cyberattacks.
3. ***Factors Inhibiting Digital Transformation***
Despite its enormous potential, the implementation of digital transformation still faces various complex obstacles. One major obstacle is the unequal distribution of digital infrastructure, particularly in rural and remote areas, leading to disparities in technology access. Furthermore, the limited human resources with digital competencies pose a serious challenge to the technology adaptation process. Many MSMEs and government officials lack the skills to optimally utilize digital technology. Regulations that are not yet fully adaptive to technological developments also pose a barrier, particularly in terms of system integration

and data protection. Furthermore, the lack of collaboration between the government, the private sector, and the public has prevented the implementation of digital transformation from proceeding optimally and in an integrated manner.

4. *Digital Transformation Optimization Strategy*

To overcome these various obstacles, a comprehensive and sustainable strategy is required. Improving digital literacy is a key step that must be taken through training and education for MSMEs and government officials. Furthermore, strengthening digital infrastructure needs to be prioritized to ensure equitable access to technology across all regions. Policy reform is also needed to make regulations more adaptive to technological developments and able to support digital innovation. Multi-stakeholder collaboration between the government, private sector, academia, and the public is a key factor in creating an inclusive and sustainable digital ecosystem. With the right strategy, digital transformation can be optimized as a key driver of improved economic performance and the quality of public services in Indonesia.

This research discussion shows that digital transformation plays a highly strategic role in improving the performance of MSMEs and the quality of public services in Indonesia. However, its implementation still faces various complex dynamics. From the MSME perspective, the use of digital technology has been proven to improve operational efficiency through business process automation, expand market access through digital platforms, and encourage increased competitiveness and product innovation that is more adaptive to consumer needs. This condition shows that digital transformation not only impacts technical aspects but also can change the mindset of business actors to be more modern and competitive. On the other hand, in the public service sector, digitalization has a positive impact in the form of increased service efficiency, information transparency, and ease of access for the public, thus encouraging the creation of more responsive and accountable services. However, various obstacles remain major obstacles, such as limited and uneven digital infrastructure, low human resource competency in the technology field, regulations that are not fully adaptive, and increasing cybersecurity risks that can disrupt the stability of the service system. Therefore, optimizing digital transformation requires a comprehensive approach through increasing digital literacy, strengthening infrastructure, policy reform, and collaboration between stakeholders so that digital transformation is not only a technological innovation, but also able to provide a real impact on improving public welfare and the quality of governance.

V. CONCLUSION

1. Digital transformation plays a crucial role in improving the performance of MSMEs and the quality of public services in Indonesia. The use of digital technology has been proven to boost operational efficiency, expand market access, and enhance MSME competitiveness amidst global competition. Furthermore, the digitalization of public services also has positive impacts, including increased service efficiency, information transparency, and ease of access for the public. This confirms that digital transformation is not only a necessity but also a key strategy in supporting economic development and better governance.
2. The implementation of digital transformation still faces various complex challenges. Limited and uneven digital infrastructure, low human resource literacy and competency, and regulations that are not yet fully adaptive are major obstacles to the digitalization process. Furthermore, increasing cybersecurity risks are a critical issue that must be addressed to maintain the sustainability of digital systems. This situation demonstrates that the success of digital transformation is determined not only by the availability of technology, but also by the readiness of the supporting ecosystem as a whole.
3. Diperlukan upaya yang terintegrasi dan berkelanjutan untuk mengoptimalkan transformasi digital di Indonesia. Peningkatan literasi digital, penguatan infrastruktur, reformasi kebijakan yang adaptif, serta kolaborasi antara pemerintah, sektor swasta, akademisi, dan masyarakat menjadi kunci utama dalam menciptakan ekosistem digital yang inklusif dan berkelanjutan. Dengan strategi yang tepat, transformasi digital diharapkan mampu memberikan dampak yang lebih luas dalam meningkatkan kesejahteraan masyarakat, memperkuat daya saing ekonomi nasional, serta mewujudkan pelayanan publik yang lebih efektif, transparan, dan responsif.

VI. BIBLIOGRAPHY

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