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Digital Transformation and Business Performance of Indonesian Small and Medium Enterprises

Subur Gunawan[1], Nur Kamilah[2], and Risfanda Nurhudiana[2]

Universitas Putra Bangsa, Kebumen, Indonesia[1]; Universitas Sarjanawiyata Tamansiswa, Yogyakarta, Indonesia[2]

ABSTRACT

Digital transformation has become increasingly important for the development and performance of small and medium enterprises (SMEs) in Indonesia. This study aims to examine and synthesize previous findings concerning digital transformation and its contribution to SME business performance. The study employed a literature review method based on relevant studies discussing digital transformation, e-commerce adoption, digital payment, social media utilization, organizational readiness, digital business strategy, and business performance among Indonesian SMEs. The findings indicate that digital transformation is a multidimensional process involving changes in business models, marketing activities, transaction systems, customer interaction, and business strategies. E-commerce, social media, and digital payment provide opportunities to expand market access, facilitate transactions, and strengthen customer engagement. However, the effectiveness of digital transformation depends not only on technology adoption but also on organizational readiness, technological capabilities, and strategic integration. Overall, the study concludes that digital transformation can support improved SME business performance when digital technologies are integrated with organizational capabilities and appropriate business strategies.

Keywords: *Business Performance, Digital Transformation, Digital Technology, Indonesian SMEs, Strategic Integration.*

CORRESPONDING AUTHOR:
Subur Gunawan
Universitas Putra Bangsa, Kebumen, Indonesia
contact: *subur247@gmail.com*

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1. | INTRODUCTION

Digital transformation has become an increasingly important aspect of business development for small and medium enterprises (SMEs) in Indonesia. The development of digital technologies has changed how SMEs conduct business activities, particularly in marketing, transactions, customer communication, and market access. E-commerce adoption, for example, provides SMEs with opportunities to reach broader markets and strengthen their business activities through digital platforms (Hayati & Andrawina, 2019; Yuniarty et al., 2020). Consequently, digital transformation is no longer limited to the use of technology but also involves changes in business processes and business models to respond to changing market conditions (Priyono et al., 2020).

The importance of digital transformation became increasingly visible during the COVID-19 pandemic, when many SMEs were required to adapt their business activities to changing consumer behavior and restrictions on conventional business interactions. Priyono et al. (2020) identified different digital transformation paths in SME business models, while Kurniawati et al. (2021) emphasized the development of digital transformation among Indonesian MSMEs during the pandemic. Similarly, Muditomo and Wahyudi (2020) proposed a conceptual model of SME digital transformation in Indonesia, indicating that digitalization requires an adaptation of business processes and organizational capabilities.

Digital transformation among SMEs can take various forms, including e-commerce adoption, digital payment, social media utilization, and the development of digital business strategies. The adoption of digital payment through Quick Response Indonesia Standard (QRIS), for instance, represents one form of digitalization that supports changes in SME transaction activities (Muditomo & Setyawati, 2022). In addition, Cahyadi and Pradnyani (2022) demonstrated that SME digitalization can be examined through technological, organizational, and environmental factors. These perspectives indicate that successful digital transformation depends not only on technology availability but also on the readiness and conditions of the business organization.

Another important issue is the relationship between digital transformation and business performance. Digital technologies can potentially improve business performance by expanding market reach, facilitating customer access, supporting transactions, and strengthening business strategies. Hanafiah et al. (2022) discussed the relationship between e-commerce adoption and SME performance, while Yacob et al. (2023) examined the role of entrepreneurial orientation, social media adoption, and e-commerce in MSME business performance. Wirdiyanti et al. (2023) further connected e-commerce adoption with MSME performance and financial inclusion. Recent studies have also increasingly examined digital transformation as part of SME business strategy. Sudrajad et al. (2023) highlighted the role of digitalization performance in digital business strategy among Indonesian MSMEs, while Prihandono et al. (2024) examined digital transformation in relation to SME performance, market competition, and digital strategy. Sayekti et al. (2024) also addressed the relationship

between digital transformation and the performance of Indonesian MSMEs. These studies suggest that digital transformation can contribute to business performance when digital technologies are integrated with appropriate business strategies and organizational capabilities.

Although previous studies have discussed digital transformation among Indonesian SMEs from various perspectives, the findings remain distributed across different aspects, including e-commerce, digital payment, social media, digital readiness, digital strategy, and business performance. Therefore, a literature-based synthesis is needed to provide a more integrated understanding of how digital transformation supports SME business performance in Indonesia. This study aims to examine and synthesize previous findings concerning digital transformation and its contribution to the business performance of Indonesian SMEs through a literature review approach.

2. | LITERATURE REVIEW

Digital Transformation in Indonesian SMEs

Digital transformation refers to the adoption and integration of digital technologies into business activities to improve the way enterprises operate, interact with customers, and develop their business models. In the context of Indonesian SMEs, digital transformation has developed through the adoption of technologies such as e-commerce, digital payment systems, and other digital platforms. Priyono et al. (2020) explain that SMEs experienced different digital transformation paths that affected their business models, particularly during changing market conditions. Kurniawati et al. (2021) similarly highlight the development of digital transformation among Indonesian MSMEs, demonstrating that digitalization became an important adaptation mechanism during the pandemic. Muditomo and Wahyudi (2020) further proposed an R-Digital Transformation Model to explain the transformation process of Indonesian SMEs during the COVID-19 period.

Digital transformation also involves more than simply introducing technology into business operations. Legowo and Sorongan (2022) developed a model for accelerating digital transformation among Indonesian MSMEs, while Cahyadi and Pradnyani (2022) examined MSME digitalization using the Technology–Organization–Environment approach. These studies indicate that technological adoption is connected with organizational and environmental conditions that influence the implementation of digital transformation.

Digital Technology Adoption in SMEs

Digital technology adoption among SMEs includes several forms of business application, particularly e-commerce, digital payment, and social media. E-commerce enables SMEs to conduct business activities through digital platforms and potentially expand their market reach. Hayati and Andrawina (2019) examined a comprehensive framework for e-commerce adoption among Indonesian SMEs, while Yuniarty et al. (2020) discussed e-commerce adoption as a mechanism for strengthening SMEs. These studies demonstrate the importance of digital commerce in supporting SME business activities.

Digital payment is another important dimension of SME digitalization. Muditomo and Setyawati (2022) examined SME digital transformation using QRIS data, indicating the relevance of digital payment adoption within Indonesia's digital business environment. In addition, Yacob et al. (2023) examined social media adoption and e-commerce together with entrepreneurial orientation in relation to MSME business performance. Thus, digital technology adoption can involve interconnected applications that support marketing, transactions, customer interaction, and business development.

Digital Transformation and SME Business Performance

Business performance is an important outcome associated with digital transformation among SMEs. Digital technologies may support business performance through wider market access, improved customer interaction, easier transactions, and stronger business strategies. Hanafiah et al. (2022) reviewed whether e-commerce adoption creates SME performance, highlighting the relationship between digital commerce and business outcomes. Yacob et al. (2023) also investigated social media adoption and e-commerce in relation to MSME business performance in Indonesia. Wirdiyanti et al. (2023) further examined the impact of e-commerce adoption on MSME performance and financial inclusion, while Sudrajad et al. (2023) discussed the role of digitalization performance in digital business strategy. More recently, Prihandono et al. (2024) examined digital transformation in relation to SME performance, market competition, and digital strategy, and Sayekti et al. (2024) specifically discussed the impact of digital transformation on Indonesian MSME business performance. These studies collectively indicate that the relationship between digital transformation and business performance can be understood through the integration of technology, digital strategy, market access, and organizational capabilities.

3. | RESEARCH METHOD

This study employed a literature review method to examine and synthesize previous findings concerning digital transformation and business performance among Indonesian small and medium enterprises (SMEs). A literature-based approach was selected because the purpose of this study was not to collect primary data from respondents but to develop an integrated understanding of the relationship between digital transformation and SME business performance based on existing academic studies. The literature review focused on studies discussing digital transformation, digitalization, e-commerce adoption, digital payment, social media adoption, digital business strategy, digital readiness, and business performance in the context of Indonesian SMEs and MSMEs. The references used in this study were selected from the literature provided for the research.

The literature selection was based on its relevance to the main topic of the study. Articles were considered relevant when they discussed digital transformation or digital technology adoption in SMEs or MSMEs and addressed business activities, business strategies, market access, organizational readiness, or business performance. Literature

that focused on e-commerce adoption was included because e-commerce represents an important form of digital transformation in SME business activities. Studies concerning digital payment, particularly QRIS, were also considered relevant because digital transactions form part of the transformation of conventional business processes. In addition, studies examining social media adoption, digital business strategy, and digital readiness were included to provide a broader understanding of the conditions that may support digital transformation and its relationship with business outcomes. This selection approach allowed the study to consider digital transformation from several complementary perspectives rather than treating it only as the adoption of a single technological application.

The analysis was conducted descriptively and thematically. First, the selected literature was reviewed to identify the main issues, concepts, and findings related to digital transformation among Indonesian SMEs. Second, the findings were grouped into several interconnected themes, including the development of digital transformation, digital technology adoption, organizational and technological readiness, digital business strategy, and business performance. Third, the findings from different studies were compared to identify similarities and differences in how digital transformation contributes to SME business activities and performance. Studies on e-commerce adoption were examined in relation to market access and business performance, while studies on social media and digital payment were considered in relation to customer interaction, marketing, and transaction processes. Studies concerning digital readiness and organizational factors were used to understand the conditions that may influence successful digital transformation. Finally, the findings were synthesized to develop an overall interpretation of the contribution of digital transformation to Indonesian SME business performance. This process did not involve statistical testing or primary data collection; instead, conclusions were developed through comparison, interpretation, and synthesis of the findings reported in the selected literature. The method therefore provides a simple and focused basis for understanding how digital transformation, technology adoption, and digital business strategies are associated with the performance of Indonesian SMEs.

4. | RESULTS

The literature reviewed in this study indicates that digital transformation has become an increasingly important component of business development among Indonesian small and medium enterprises (SMEs). The reviewed studies demonstrate that digital transformation is not limited to the adoption of a particular technological application but involves changes in business activities, business models, transactions, marketing, customer interaction, and business strategies. Priyono et al. (2020) identified different digital transformation paths in SME business models, indicating that changes in the business environment can encourage SMEs to modify how they create and deliver value. Kurniawati et al. (2021) similarly demonstrated the development of digital transformation among Indonesian MSMEs during the pandemic, while Muditomo and

Wahyudi (2020) proposed an R-Digital Transformation Model that emphasizes the transformation process of SMEs in Indonesia. These findings indicate that digital transformation can function as an adaptation mechanism for SMEs facing changes in market conditions.

The literature further shows that digital transformation among Indonesian SMEs takes several practical forms. One of the most prominent forms is e-commerce adoption. Hayati and Andrawina (2019) discussed a comprehensive framework for e-commerce adoption among Indonesian SMEs, suggesting that digital commerce can become an important component of SME business activities. Yuniarty et al. (2020) similarly examined e-commerce adoption as a means of strengthening SMEs. The findings from these studies demonstrate that e-commerce provides SMEs with a digital channel for conducting business activities and reaching customers beyond conventional physical markets.

The reviewed literature also identifies digital payment as another important component of SME digitalization. Muditomo and Setyawati (2022) examined digital transformation through Quick Response Indonesia Standard (QRIS) data, demonstrating the relevance of digital payment adoption in the transformation of SME transaction activities. Digital payment can facilitate transactions by providing an alternative to conventional payment processes and supporting the integration of SMEs into an increasingly digital business environment. In this context, digital transformation extends beyond online marketing and selling because it also changes how transactions between businesses and customers are conducted.

Another finding concerns the importance of technological, organizational, and environmental conditions in the digitalization process. Cahyadi and Pradnyani (2022) examined MSME digitalization using the Technology–Organization–Environment approach, indicating that technology adoption needs to be considered together with organizational and environmental conditions. Anatan and Nur (2023) also focused on the readiness of Indonesian MSMEs for digital transformation. These studies suggest that the availability of digital technologies alone does not guarantee successful transformation. SMEs also require adequate readiness to adopt and utilize digital technologies within their business activities.

The literature indicates that digital transformation is also connected with changes in digital business strategy. Legowo and Sorongan (2022) examined the acceleration of digital transformation among Indonesian MSMEs and proposed a model for supporting this process. Sudrajad et al. (2023) examined the role of digitalization performance in digital business strategy among Indonesian MSMEs. These findings suggest that digital transformation becomes more meaningful when technological adoption is integrated into broader business strategies. Digital technology can therefore support not only operational activities but also the way SMEs respond to competition, customers, and changing market conditions.

The reviewed literature also provides evidence concerning the relationship between

digital technology adoption and SME business performance. Hanafiah et al. (2022) specifically reviewed whether e-commerce adoption creates SME performance, showing that the relationship between digital commerce and business outcomes has become an important topic in the literature. Yacob et al. (2023) investigated entrepreneurial orientation, social media adoption, and e-commerce in relation to MSME business performance in Indonesia. Their study demonstrates that digital channels such as social media and e-commerce can be considered alongside broader entrepreneurial and business factors when examining SME performance. The relationship between e-commerce and business outcomes is also reflected in the study by Wirdiyanti et al. (2023), which examined how e-commerce adoption affects MSME performance and financial inclusion in Indonesia. This finding expands the discussion beyond direct business activities by showing that digital commerce can also be associated with broader access to financial services. Digital platforms may therefore provide SMEs with opportunities to participate more actively in formal digital economic activities.

The literature further demonstrates that digital transformation is increasingly discussed in connection with market competition and business strategy. Prihandono et al. (2024) examined digital transformation as a means of enhancing Indonesian SME performance while considering market competition and digital strategy. Their findings strengthen the view that digital transformation should not be separated from the strategic context in which SMEs operate. The contribution of digital transformation to performance may depend on how SMEs integrate digital technologies with strategies for responding to competition and developing their markets.

Sayekti et al. (2024) also directly examined digital transformation and its impact on the performance of Indonesian MSMEs. Together with the findings of Prihandono et al. (2024), this literature provides recent evidence that the discussion of digital transformation has moved beyond simple technology adoption toward its relationship with business performance. The results across the reviewed studies generally indicate that digital transformation is associated with opportunities to improve business activities, expand market access, strengthen customer interaction, facilitate transactions, and support business strategy.

Overall, the reviewed literature reveals a consistent pattern. Digital transformation among Indonesian SMEs can be observed through the adoption of e-commerce, social media, digital payment, and digital business strategies. These technologies and practices are associated with changes in how SMEs conduct marketing, transactions, customer engagement, and business development. At the same time, digital readiness, organizational conditions, and the external business environment influence the ability of SMEs to implement digital transformation effectively. The literature also shows that business performance is increasingly discussed as an important outcome of digital transformation, particularly through market access, e-commerce activities, digital strategy, and competitive positioning. Therefore, the results of this literature review

indicate that digital transformation represents a multidimensional process in which technology adoption, organizational readiness, and business strategy interact to support the development and performance of Indonesian SMEs.

5. | DISCUSSION

The findings of this literature review demonstrate that digital transformation has become an important strategic process for improving the business performance of Indonesian small and medium enterprises (SMEs). The results show that digital transformation should not be understood merely as the introduction of technology into existing business activities. Instead, it represents a broader process involving changes in business models, marketing practices, transaction systems, customer relationships, organizational capabilities, and competitive strategies. This interpretation is consistent with Priyono et al. (2020), who emphasized different digital transformation paths in SME business models. Similarly, Kurniawati et al. (2021) and Muditomo and Wahyudi (2020) demonstrated that digital transformation became an important mechanism through which Indonesian MSMEs adapted to changing business conditions. Therefore, the findings suggest that the contribution of digital transformation to business performance depends on the extent to which technology is incorporated into the overall development of business activities.

One important finding concerns the role of e-commerce as a major entry point for digital transformation. The reviewed literature indicates that e-commerce enables SMEs to extend their business activities beyond conventional physical markets and create wider opportunities for customer access. Hayati and Andrawina (2019) emphasized the importance of a comprehensive approach to e-commerce adoption, while Yuniarty et al. (2020) identified e-commerce as a mechanism for strengthening SMEs. These findings imply that digital commerce can support performance by expanding market reach and creating additional channels through which SMEs can offer products and interact with customers. However, the results also suggest that simply joining an e-commerce platform may not automatically improve performance. The potential benefits of digital commerce are more likely to emerge when its adoption is connected with broader business objectives and the ability of SMEs to manage digital business activities effectively.

The findings also highlight that digital transformation involves multiple and interconnected technologies. In addition to e-commerce, digital payment and social media adoption contribute to changes in how SMEs conduct transactions and communicate with customers. Muditomo and Setyawati (2022) demonstrated the relevance of QRIS as part of the digital transformation of SME transaction activities. Meanwhile, Yacob et al. (2023) examined social media adoption and e-commerce together with entrepreneurial orientation in explaining MSME business performance. This suggests that the effects of digital transformation should not be examined through a single technology in isolation. SMEs may obtain greater benefits when different digital applications complement each other, such as when social media supports product promotion, e-commerce facilitates purchasing activities, and digital payment simplifies transactions. The integration of these technologies can create a more connected digital business process and potentially strengthen customer engagement and market responsiveness.

Another important implication is the central role of organizational readiness in determining the effectiveness of digital transformation. The findings show that technology availability alone is insufficient to guarantee successful digitalization. Cahyadi and Pradnyani (2022),

through the Technology–Organization–Environment perspective, demonstrated that digitalization is influenced by organizational and environmental conditions. Similarly, Anatan and Nur (2023) emphasized the readiness of Indonesian MSMEs for digital transformation. These studies support the interpretation that SMEs need adequate capabilities, readiness, and internal support to transform technological adoption into improved business outcomes. Consequently, differences in SME performance following digital adoption may be explained by differences in organizational capacity to utilize technology rather than by technology adoption alone.

The discussion further indicates that digital transformation should be closely connected with digital business strategy. Legowo and Sorongan (2022) highlighted the need to support and accelerate the digital transformation process among Indonesian MSMEs, while Sudrajad et al. (2023) demonstrated the relationship between digitalization performance and digital business strategy. This finding is important because it shifts the discussion from technology as an operational tool toward technology as part of strategic business development. Digital transformation can contribute more substantially to performance when SMEs use digital technologies to respond to market changes, understand customer needs, strengthen their competitive position, and develop appropriate business strategies. In this context, technology adoption becomes a strategic resource rather than simply an additional business facility.

The relationship between digital transformation and business performance is also reinforced by studies examining market competition and broader business outcomes. Hanafiah et al. (2022) discussed the relationship between e-commerce adoption and SME performance, whereas Wirdiyanti et al. (2023) demonstrated that e-commerce adoption can be associated not only with MSME performance but also with financial inclusion. These findings indicate that the implications of digitalization may extend beyond immediate improvements in sales or transactions. Digital transformation can potentially increase SME participation in wider economic and financial systems. Prihandono et al. (2024) further emphasized the importance of market competition and digital strategy in understanding how digital transformation enhances Indonesian SME performance, while Sayekti et al. (2024) provided further evidence regarding the impact of digital transformation on MSME business performance.

The discussion confirms that digital transformation contributes to Indonesian SME business performance through a multidimensional process. E-commerce, social media, and digital payment provide practical mechanisms for transforming marketing, customer interaction, and transactions, but their effectiveness is influenced by organizational readiness and strategic integration. Thus, the findings suggest that improved performance does not result from digital technology alone. Rather, business performance is supported when technology adoption is combined with organizational capabilities, digital readiness, and an appropriate strategy for responding to market competition. Digital transformation should therefore be considered a continuing strategic process through which Indonesian SMEs adapt their resources and business practices to the changing digital business environment.

6. | CONCLUSION

This literature review concludes that digital transformation plays an important role in supporting the business performance and development of Indonesian small and medium enterprises (SMEs). The findings indicate that digital transformation is a multidimensional process that goes beyond the adoption of technology and involves

changes in business activities, market access, transaction systems, customer interaction, organizational capabilities, and business strategies. The main forms of digital transformation identified in the reviewed literature include e-commerce adoption, social media utilization, digital payment, and the development of digital business strategies.

The findings further demonstrate that digital technologies can create opportunities for SMEs to expand market access, facilitate business transactions, strengthen customer engagement, and respond more effectively to changing market conditions. However, the contribution of digital transformation to business performance is not determined by technology adoption alone. Organizational readiness, the ability to utilize digital technologies, and the integration of technology into broader business strategies are important factors influencing the effectiveness of the transformation process.

Digital transformation can support improved SME performance when technological adoption is accompanied by adequate organizational capabilities and strategic adaptation. SMEs should therefore view digitalization as a continuing business development process rather than a one-time technological change. The integration of digital technologies with business strategy can strengthen competitiveness and support sustainable business development within Indonesia's increasingly digital business environment.

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Conflict of Interest Statement

The authors declare that there is no conflict of interest.

Ethical Approval and Originality Statement

Ethical approval was obtained for this study. The manuscript represents original work and has not been previously published, nor is it under consideration by another journal.

Data Disclosure Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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