

# Digital Economic Transformation on the Impact of SMEs in Developing Countries: A Literature Review

Digital Economic  
Transformation on  
SMEs

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## ABSTRACT

The digital economic transformation has become the main catalyst for changes in the global economic structure, particularly in developing countries. This study aims to identify and analyze the impact of the digital economy on the growth, efficiency, and competitiveness of Micro, Small, and Medium Enterprises (MSMEs). Through a literature review of various academic studies, international organization reports, and policy publications, it was found that digitalization offers significant opportunities for MSMEs in terms of broader market access, operational efficiency through automation, and improved access to digital financial services. However, various challenges also arise, such as the digital divide, limited technological literacy, and uneven infrastructure. This study concludes that the success of SME digital transformation in developing countries heavily depends on the synergy between public policy, human resource capacity building, and investment in digital infrastructure. Thus, digital economic transformation is not only an inevitability but also a strategic opportunity to promote more equitable economic inclusion.

**Keywords:** Developing Countries, Digital Economy, Digital Literacy, Economic Transformation, SMEs.

## INTRODUCTION

The development of information and communication technology has brought about fundamental changes in the global economic landscape. One of the most significant manifestations of this change is the emergence of the digital economy, an economic system based on the use of digital technology in the production, distribution, and consumption of goods and services. This transformation has not only impacted developed countries but has also begun to penetrate developing countries, including sectors previously considered conventional, such as Micro, Small, and Medium Enterprises (MSMEs) (Tapscott, 1995).

MSMEs are the backbone of the economy in most developing countries. In Indonesia, for example, MSMEs contribute more than 60% to Gross Domestic Product (GDP) and employ around 97% of the workforce. However, despite their important role, sector MSMEs often face various structural challenges, including limited access to financing, minimal managerial training, and obstacles to global market penetration (Khatri, 2019). Presence technology offers a digital solution to a number of these problems.

The digital economic transformation has enabled MSMEs to expand market reach through e-commerce, enhance operational efficiency via automation, and strengthen competitiveness through data-driven marketing (Banga et al., 2020). At the same time, it has introduced challenges related to digital literacy, consumer data protection, and persistent infrastructure gaps between rural and urban regions (Maurya et al., 2025). While prior studies report a positive association between digital technology adoption and MSME productivity (Judijanto et al., 2023; Adiningrat et al., 2023). The effectiveness of

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this transformation depends on supportive policy ecosystems and adequate infrastructure (World Bank, 2016). Moreover, the digital economy extends beyond e-commerce to include fintech, digital labor platforms, technology-based logistics systems, and big data and artificial intelligence, all of which directly influence MSME performance and competitiveness (OECD, 2021b).

In developing countries, structural challenges such as limited digital infrastructure, uneven access to literacy technology, and regulations that are often left behind constitute a major obstacle (Dutta et al., 2022). Furthermore, fiscal policies and incentives for the digital transformation of MSMEs are still very limited. As a result, the adoption of digital technology among MSMEs is sporadic and uneven. A World Bank (2019) study shows that although many MSMEs have their own access to the Internet, only a small proportion actually use it for productive activities.

Digitalization reshapes social and economic relations at the micro level by creating new forms of interaction among producers, consumers, and service providers through digital platforms (Smicek, 2017). MSMEs that successfully adapt to this ecosystem gain greater opportunities to grow, integrate into global value chains, and access international markets via digital platforms without relying on costly traditional distribution channels (UNIDO, 2020). This dynamic encourages governments to promote digital skills development and strengthen technological infrastructure through affirmative policies (Olszewska, 2020). However, the literature also cautions that these benefits are unevenly distributed, as limited technological resources and capabilities can widen the digital divide among MSMEs.

Therefore, digital economic transformation requires an inclusive, participatory, and sustainable approach. The purpose of this literature review is to systematically examine the impact of the digital economy on MSMEs in developing countries. Through a search of academic literature, reports from international institutions, and empirical studies in Asia, Africa, and Latin America, the author seeks to present a comprehensive picture of how MSMEs respond to, adapt to, and benefit from the digital economy. This study presents policy recommendations for the government and relevant stakeholders. Therefore, understanding the dynamics and impact of economic transformation in the digital era is crucial so that MSMEs not only endure but also grow sustainably. This study aims to systematically examine the impact of digital economic transformation on the growth and development of MSMEs in developing countries, and to identify strategic and policy instruments that can strengthen their role within an inclusive and sustainable digital economy ecosystem, providing evidence-based guidance for governments and stakeholders in designing coherent and equitable digital transformation frameworks.

## **LITERATURE REVIEW**

### **Digital Economy Transformation**

Digital economy transformation represents a comprehensive process that reshapes organizational and economic systems through the strategic integration of digital technologies. It is not limited to adopting new tools but involves a holistic shift in business models, strategic alignment, organizational culture, and innovation capabilities to sustain long-term competitiveness within a digitally connected ecosystem (Cichosz et al., 2020). In the broader digital economy, this transformation is reinforced by the digitization of financial and economic interactions through digital telecommunications, which accelerates commodity money relations, reduces transaction time, and enhances the security and efficiency of financial exchanges (Li et al., 2022).

At the organizational level, digital transformation strengthens operational efficiency and agility by enabling firms to streamline workflows, automate processes, and optimize supply chains, thereby reducing costs and improving responsiveness to dynamic market conditions (Omol, 2024). The application of advanced technologies such as big data analytics, cloud computing, artificial intelligence, and the internet of things supports data-driven decision-making, operational integration, and the personalization of customer experiences, which collectively enhance business competitiveness and market reach

(Bresciani et al., 2021; Purnomo et al., 2024; Baehaqi et al., 2025). Beyond performance outcomes, digital transformation also promotes economic inclusion by expanding access to financial services, business training, and institutional support systems that were previously difficult to obtain for marginalized or small-scale actors (Noerchoidah et al., 2025).

Empirical studies further underline its economic and developmental impacts. Putri et al. (2023) show that digital transformation significantly strengthens MSME resilience through the adoption of e-commerce platforms, social media marketing, digital inventory systems, and financial applications, contributing to business continuity, job creation, and improved welfare. Similarly, Cheng et al. (2023) find that digital transformation enhances total factor productivity in real economy enterprises, although its advancement requires substantial initial investment in human and physical capital, the alignment of production factors, and well-functioning production processes to ensure sustainable and scalable outcomes.

### **MSME Development**

MSME development is increasingly shaped by the integration of financial technology and digital systems that strengthen business performance and market participation. Astutik and Retnosari (2025) find that financial technology has a significant positive effect on MSME development through digital financial applications, transaction convenience, payment security, and the efficiency of financial services, which collectively enhance operational reliability and growth capacity. Beyond financial infrastructure, Arifin et al. (2021) emphasize the importance of both internal and external development dimensions. Internal development includes capital procurement, product innovation, expansion of marketing networks, and the provision of production facilities and infrastructure, while external development focuses on improving MSME access to capital sources, coaching and training programs, as well as enhanced marketing and promotional support. These complementary dimensions highlight that MSME growth requires both firm-level capability building and institutional or ecosystem-level facilitation.

Digital technology adoption further reinforces MSME adaptability and competitiveness in dynamic market environments. Sahoo et al. (2025) argue that the use of e-commerce platforms, digital marketing strategies, and cloud-based tools improves operational efficiency, marketing effectiveness, and sales performance, enabling MSMEs to respond rapidly to changing conditions. In emerging markets, Al Omoush et al. (2025) demonstrate that digital business transformation significantly influences frugal innovation and SME resilience, with organizational learning acting as a critical driver of transformation and long-term adaptability. This perspective aligns with Putritamara et al. (2023), who conceptualize digital transformation as an innovation process that encourages firms to continuously explore internal business factors and build resilience in the face of uncertainty. At the macro level, Aditi and Pentana (2018) further show that MSME development exerts a positive and significant influence on the creative economy, positioning MSMEs as key contributors to broader economic diversification and sustainable growth.

### **RESEARCH METHODS**

This study adopts a qualitative research design using a Systematic Literature Review (SLR) approach to examine the impact of digital economic transformation on the growth and development of Micro, Small, and Medium Enterprises (MSMEs) in developing countries, as well as to identify effective strategies and policy frameworks that strengthen MSME participation in the digital economy. A qualitative design is appropriate because the study seeks to interpret, synthesize, and critically compare conceptual arguments, empirical findings, and policy perspectives rather than to test statistical relationships or causal models. Data were collected through a structured search of academic databases and institutional repositories, including Google Scholar, Scopus, Web of Science, and official websites of international organizations. The search employed predefined

keywords and combinations, including “digital economy transformation,” “MSME development,” “digitalization in developing countries,” “fintech and MSMEs,” and “digital policy ecosystem.” The search was limited to peer-reviewed journal articles, policy reports, and working papers published primarily between 2015 and 2025 to ensure relevance to recent technological and policy developments.

The population of this study consists of global academic and policy literature discussing digital transformation and MSME development in developing countries. The sample includes selected publications that are relevant to MSMEs or SMEs in developing or emerging markets, explicitly address digital economy elements such as e-commerce, fintech, digital platforms, or digital infrastructure, and provide empirical findings, conceptual frameworks, or policy analysis. Non-academic sources, opinion-based materials, and publications lacking methodological clarity were excluded in order to ensure the rigor and reliability of the analysis.

The primary research instrument was a literature review matrix used to systematically record key information from each source, including research objectives, methodological approach, geographical context, main findings, and policy implications. The collected data were analyzed using thematic content analysis. Themes such as market access, operational efficiency, financial inclusion, digital literacy, infrastructure gaps, platform dependency, and policy support were coded and compared across studies to identify patterns, convergences, and contradictions. This analytical process enabled the synthesis of evidence into a coherent framework linking digital transformation mechanisms with MSME performance outcomes and institutional conditions. Through this structured qualitative approach, the study ensures transparency, replicability, and analytical depth in examining how digital economic transformation shapes MSME development and policy responses in developing countries.

## **RESULTS**

### **The Impact of Digital Economic Transformation on MSME Growth**

The digital economic transformation has significantly impacted the growth and development of Micro, Small, and Medium Enterprises (MSMEs) in developing countries. Digitalization opens up opportunities for MSMEs to increase productivity, expand markets, and strengthen competitiveness in an increasingly digitalized economic ecosystem. The wrong one's impact stands out most from the transformation of digitalis. Ease of market access through e-commerce platforms and social media. MSMEs that previously relied solely on local markets can now market their products nationally and even globally without the need for significant investment in physical distribution. In Indonesia, for example, platforms like Tokopedia, Shopee, and Instagram have been widely used by MSMEs to sell products across various regions, and this directly increases their turnover and customer reach (Prabowo et al., 2024).

Furthermore, digitalization also supports operational efficiency for MSMEs. The use of digital cashier applications, cloud-based inventory management, and simple accounting software allows MSMEs to manage their businesses in a more structured manner (OECD, 2021a). This technology not only saves time but also reduces the cost of errors in financial recording and stock management. This efficiency ultimately drives sustainable business growth. The digital economic transformation also expands MSMEs' access to financial services, particularly through fintech platforms. Many MSMEs in developing countries struggle to obtain financing from conventional banks due to limited collateral. Fintech lending presents as an alternative solution, with assessing business feasibility based on digital transaction data and consumer behavior (Ilufoye et al., 2020). Access to financing is important for business expansion and investment in technology.

However, not all MSMEs are able to enjoy the benefits of digital transformation. Challenges include limited technological infrastructure, low digital literacy, and disparities between urban and rural areas (Hendrawan et al., 2024). MSMEs located in areas with limited internet access or managed by individuals with low levels of education are often left behind in the process of adopting technology. As a result, the transformation

of digital. can create a gap between MSMEs that are capable of adapting to technology and whatnot.

Furthermore, MSMEs' dependence on large platforms raises sustainability issues. Large marketplaces can set high commission policies, visibility algorithms, and promotional costs. This makes MSMEs vulnerable to changes in the rules of the platforms they use and reduces their independence in managing customer relationships (Srniczek, 2017). Furthermore, digital transformation also brings about changes in the business model of MSMEs. Digitalization pushes the emergence of business-based service digital platforms such as dropshipping, online resellers, and commercial content creators. These changes participate in shifting the limitation between the traditional sectors, formal and informal (Dutta et al., 2022). Lots perpetrator micro enterprises start business activities from home with small capital but are able to grow rapidly because they optimally utilize digital channels.

In addition, digital transformation creates opportunities for the integration of MSMEs in the global supply chain (global value chain). Platforms like Alibaba, Amazon Handmade, or Etsy allow MSMEs to market local specialty products to international markets (UNIDO, 2020). This is especially important for developing countries with a comparative advantage in field craft, textiles, food processing, and product culture. However, this integration also demands higher standards of quality and speed of service. Digitalization also provides opportunities to improve managerial literacy among MSMEs (Hermansyah et al., 2025). Many online training platforms provide materials on entrepreneurship, financial management, and digital marketing, as well as basic digital skills training. Government and sector, private companies in several developing countries have collaborated to create community-based digital literacy programs, such as the "MSME Go Digital" program in Indonesia.

However, this aspect of protecting data and cybersecurity becomes a new challenge that MSMEs must face in the digital era (Batmetan, 2023). A lack of understanding of digital risks makes MSMEs vulnerable to data theft, online fraud, and cyberattacks (OECD, 2021b). This lack of preparedness can lead to financial and reputational losses, especially when involving sensitive data consumers. In context, the policy is public and supported. The digital transformation of MSMEs remains uneven across many developing countries. Some countries still face gaps in basic infrastructure, such as fast internet access, electricity distribution, and affordability of digital devices. Furthermore, regulations related to digital consumer protection, online transaction security, and business competition on digital platforms have not been widely harmonized nationally or regionally.

An active role of the state is needed through affirmative policies, fiscal incentives, and cooperation across multiple sectors to ensure that MSMEs not only become passive users of technology but also active players in building the national digital economy. The government needs to provide mentoring programs, structured training, technology subsidies, and build an ecosystem that is digitally inclusive, which facilitates MSMEs from various social and regional backgrounds (ASEAN Secretariat, 2021; Kadaba et al., 2023). The digital economic transformation has had a positive impact on the growth and development of MSMEs in the country. However, in order for the impact to be inclusive and sustainable, support from the government is needed in the form of infrastructure, digital literacy training, and regulations that protect small businesses in the digital economy. Digital transformation is not a single solution, but rather part of a broader, sustainable economic development strategy.

### **Strategy and Policy for Strengthening MSMEs**

Digital transformation has become a major strength, which forms the direction of global economic growth. Amidst this trend, MSMEs in developing countries play a crucial role as the backbone of the economy, but they also face significant challenges in adapting to digital change (Huang, 2024). Because of that, a required strategy and policy

are needed to strengthen the role of MSMEs in the digital economic ecosystem in an inclusive and sustainable manner.

The primary strategy that must be adopted is the development of equitable digital infrastructure. Many MSMEs in developing countries operate in areas with poor internet access, a lack of stable electricity, and limited technological devices (Kadaba et al., 2023). This infrastructure gap creates a digital divide that widens the gap between businesses in large cities and those in rural areas (Hermansyah et al., 2025). The government needs to accelerate the development of high-speed internet networks and ensure their availability. technology based in all over the remote areas of the country. According to the report Bank World, infrastructure investment in digital is directly correlated with the improvement of participation of MSMEs in the digital economy (World Bank, 2021).

Empowering digital literacy is a strategic aspect in facing the era of transformation. Many MSMEs lack basic knowledge about using digital technology. internet, digital platforms, electronic payment systems, and cybersecurity. Training in digital literacy, which is systematic and sustainable, is required so that MSMEs cannot just be consumers of technology, but also be capable of taking advantage of it in a productive way (Rujitoningtyas et al., 2024). Programs such as the “Digital Talent Scholarship” in Indonesia and “Go Digital ASEAN,” initiated by Google and the ASEAN Foundation, are examples of effective multi-sector collaboration in educating MSMEs.

Another important strategy is expanding access to digital financing through support for fintech and digital banking (Sihotang et al., 2025). Many MSMEs still face barriers to accessing financing from traditional financial institutions due to collateral issues. And history credit. By utilizing digital data, such as transaction e-commerce or social media track records, fintech platforms can assess the creditworthiness of MSMEs using alternative methods. The government can give incentives to fintech that reach MSMEs in remote regions and form regulations that guard the security of user data.

Fiscal policies and tax incentives for digitalized MSMEs need to be developed. MSMEs that undertake digital onboarding, such as registering with official e-commerce platforms, using digital POS systems, or having websites, can receive incentives in the form of tax cuts, free training, or technical assistance. Such schemes will push more Lot perpetrator MSMEs to participate actively in the economy. Countries like Malaysia have implemented this through “Digitalization Grants” given to MSMEs to purchase digital services. Integrating MSMEs in the digital ecosystem. Also, it needs to be pushed through the development of a national platform that prioritizes small businesses. For example, the government e-catalog can be optimized to showcase local MSME products while simultaneously incentivizing public institutions to purchase from them. The government can facilitate collaboration between MSMEs and perpetrator industry, large digital companies such as local unicorns, with fair and mutually beneficial business partnership schemes.

Legal and digital data protection policies are crucial to ensure that MSMEs feel safe using digital platforms (Amri et al., 2025). Many MSMEs are reluctant to enter the digital world due to fear of data misuse or unfair business practices from large platforms. Therefore, the government needs to strengthen regulations related to personal data protection and consumer rights. digital, and e-commerce regulations. In addition, the body supervisor is independent, which focuses on protecting perpetrator MSMEs in the digital realm, and needs to be formed. Involving MSMEs in digital policymaking is a crucial strategy to ensure that policies truly address their needs. Can form a consultative forum, which involves the association of MSMEs, digital communities, and startups to design inclusive digital transformation policies. This approach aligns with participatory development principles and can increase the effectiveness of policy implementation (OECD, 2021b).

Digital entrepreneurship policies from secondary to higher education need to be strengthened (Sihotang et al., 2025). Many MSME entrepreneurs start their businesses without a digital background, therefore, integrating a digital entrepreneurship curriculum is crucial in developing a future generation of entrepreneurs who are ready to adapt to

technology (Rujitoningtyas et al., 2024). Universities and vocational training institutions can become centers of MSME-based digital innovation, with support from the government and the private sector (Asian Development Bank, 2020). Lastly, strengthening the local digital ecosystem through business incubators, creative houses, or coworking spaces, which are friendly to MSMEs, needs to become a priority. This must provide mentoring, business, legal services, fast internet connectivity, and access to digital investors. Collaboration between local governments, universities, and industry players is essential to ensure the sustainability of this ecosystem. Strategies and policies to strengthen the role of MSMEs in the digital economy ecosystem must be holistic, sustainable, and inclusive. The government, as the primary actor, must be the facilitator and driver of this transformation, involving all stakeholders. Without a strategic and collaborative approach, MSMEs in developing countries will struggle to keep pace with the increasingly rapid changes in the digital economy.

## **DISCUSSION**

The findings of this study reinforce the conceptualization of digital economy transformation as a systemic rather than purely technological shift. Consistent with Cichosz et al. (2020), the observed impacts on MSMEs extend beyond tool adoption to encompass changes in business models, market orientation, and organizational practices. The expansion of market access through e-commerce and social media platforms aligns with Li et al. (2022), who emphasize the role of digital telecommunications in accelerating economic exchanges and reducing transaction frictions. However, this study extends prior work by demonstrating that these benefits are not uniformly distributed, highlighting the persistence of structural inequalities in infrastructure and digital literacy that shape MSME participation in the digital ecosystem.

The efficiency gains identified through digital cashier systems, cloud-based inventory tools, and accounting software resonate with Omol's (2024) argument that digital transformation enhances operational agility and cost efficiency. At the same time, the integration of MSMEs into global value chains through international platforms reflects the competitiveness mechanisms described by Bresciani et al. (2021) and Purnomo et al. (2024), where data-driven processes and platform-based intermediation enable small firms to scale beyond domestic markets. Nevertheless, this study nuances these perspectives by showing that platform dependence can also constrain MSME autonomy, echoing Srnicek's (2017) critique of platform capitalism, in which governance structures and algorithmic visibility can shift bargaining power away from small producers.

The role of fintech in expanding access to finance corroborates the findings of Astutik and Retnosari (2025), particularly regarding the importance of transaction convenience and digital credit assessment in overcoming collateral constraints. This financial inclusion effect also supports Noerchoidah et al. (2025), who link digital transformation to broader socio-economic inclusion. However, the results suggest that financial access alone is insufficient without complementary capacity-building initiatives, aligning with Arifin et al. (2021), who emphasize the interdependence of internal capability development and external institutional support.

The observed strengthening of MSME resilience through digital adoption is consistent with Putri et al. (2023) and Al Omoush et al. (2025), who highlight the role of organizational learning and frugal innovation in enabling firms to navigate uncertainty. This study adds a policy dimension to this literature by illustrating how regulatory gaps in data protection and platform governance can undermine trust and long-term sustainability, an issue also raised by OECD (2021b). Furthermore, the contribution of MSMEs to creative and cultural industries supports Aditi and Pentana's (2018) argument that MSME development is a driver of broader economic diversification.

From a practical standpoint, these findings imply that digital transformation strategies for MSMEs should be embedded within an inclusive ecosystem framework rather than isolated technological interventions. Policymakers should prioritize integrated approaches that combine infrastructure development, digital literacy programs, fintech

regulation, and fair platform governance to mitigate dependency risks and regional disparities. For practitioners, the results underscore the importance of investing in organizational learning and adaptive capabilities to leverage digital tools strategically rather than tactically. Thus, the study suggests that sustainable MSME growth in the digital economy depends on the alignment of firm-level innovation, institutional support, and regulatory safeguards that collectively foster equitable participation and long-term competitiveness.

## CONCLUSION

This study demonstrates that digital economic transformation substantially supports the advancement of MSMEs in developing economies by widening market reach through e-commerce, streamlining operations with digital and automated management systems, and increasing financial inclusion via fintech-enabled credit evaluation. At the same time, it reveals ongoing constraints such as unequal digital infrastructure, low levels of digital capability, growing reliance on dominant platforms, and heightened exposure to data privacy and cybersecurity risks. These findings affirm that digital transformation extends beyond the mere adoption of technologies and is deeply influenced by institutional arrangements and policy frameworks that shape how MSMEs participate in the digital ecosystem.

The implications are both practical and policy-oriented. For governments, the results point to the importance of cohesive and inclusive strategies that integrate infrastructure development, digital skills programs, effective fintech oversight, and balanced platform regulation to address regional inequality and safeguard MSME independence. For business owners and practitioners, the study highlights the need to strengthen organizational learning and adaptive capacity, ensuring that digital tools are employed strategically to enhance resilience and maintain long-term competitiveness. Despite these contributions, the study is limited by its reliance on secondary literature, which restricts insight into sectoral variation and causal impact. Future research should therefore adopt mixed or quantitative designs, including longitudinal and cross-country analyses, to assess the effects of specific digital policies and platform governance mechanisms on MSME performance and sustainability.

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