

The Role of SMEs in Economic Growth: Adaption, Digitalization, And Global Competitiveness

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Abstract

Small and Medium Enterprises (SMEs) have long been recognized as the backbone of national economies, contributing significantly to employment, innovation, and inclusive growth. In Indonesia, SMEs face increasing pressures to adapt to rapid global changes, particularly during crises such as the COVID-19 pandemic, which reshaped consumer behavior and disrupted supply chains. This study aims to analyze the role of SMEs in driving economic growth with a focus on three key aspects: adaptation, digitalization, and global competitiveness. A qualitative literature review method was employed, drawing on peer-reviewed journal articles, policy documents, and institutional reports published within the last decade. Findings reveal that adaptive capacity enables SMEs to maintain resilience by reconfiguring resources and business models during shocks. Digitalization, through the adoption of e-commerce, online payments, and digital marketing, has proven essential for expanding market reach, reducing transaction costs, and fostering innovation. However, the digital divide—driven by disparities in infrastructure, finance, and human capital—creates uneven outcomes among SMEs. Global competitiveness, meanwhile, depends on the ability of SMEs to comply with international standards, access finance, and integrate into global value chains, with digital platforms offering new opportunities yet also posing governance challenges. Case studies from Indonesia demonstrate that SMEs leveraging adaptation and digitalization achieve greater resilience and access to international markets. The study concludes that adaptation, digitalization, and competitiveness are interconnected, requiring not only firm-level strategies but also supportive ecosystems, policies, and collaborative networks to maximize SMEs' contribution to sustainable economic growth.

Keywords: SMEs, Digitalization, Global Competitiveness.

INTRODUCTION

Small and Medium Enterprises (SMEs) are one of the key drivers of economic growth, job creation, and innovation in various countries, including Indonesia (Tambunan, 2019). SMEs contribute significantly to national income while absorbing a large portion of the labor force, particularly in the informal sector (Prasetyo & Kistanti, 2020). However, the COVID-19 pandemic has posed serious challenges, forcing SMEs to adapt to drastic changes in consumer behavior and business ecosystems (Prasetyo & Kistanti, 2020). This situation underscores the importance of SMEs' resilience and innovation in maintaining their economic role during times of crisis.

Digitalization has become a necessity for SMEs to survive and compete in the global market. The adoption of e-commerce, digital payments, and online marketing has opened up new opportunities while also presenting technological and regulatory challenges (Ben Slimane et al., 2022). SMEs that successfully adopt digital transformation are proven to enhance efficiency, productivity, and market reach (Nguyen et al., 2015). In this context, digital transformation is not only a survival strategy but also a long-term investment to improve competitiveness in the digital economy (OECD, 2021).

The competitiveness of SMEs in the global market is also influenced by innovation and the ability to integrate into global value chains (Cirera et al., 2021). Many SMEs in developing countries, including Indonesia, still face obstacles such as limited access to finance, low human resource quality, and inadequate infrastructure (World Bank, 2020). These barriers highlight the urgent need for support from the government, private sector, and international cooperation to strengthen SME capabilities (UNCTAD, 2020). Thus, increasing the global competitiveness of SMEs is not only the responsibility of business actors but also requires multi-stakeholder collaboration.

Furthermore, globalization and rapid technological development demand SMEs to be more adaptive and sustainable (Bai et al., 2021). In the era of the digital economy, SMEs that fail to innovate and adapt are at risk of being marginalized from the global market (Sharma et al., 2020). Therefore, building digital ecosystems, enhancing skills, and providing inclusive access to technology



are crucial strategies to ensure the sustainability of SMEs (Dwivedi et al., 2020). This shows that the role of SMEs in economic growth is highly dependent on their ability to adapt to global challenges.

The urgency of this research lies in the fact that the role of SMEs is not only limited to economic contributions but also includes efforts to achieve inclusive and sustainable development. By understanding how SMEs adapt, embrace digitalization, and strengthen global competitiveness, this study seeks to provide insights for policymakers and practitioners to formulate more effective strategies in empowering SMEs (Kuckertz et al., 2020).

Previous studies have highlighted the importance of SMEs in boosting innovation and supporting economic resilience (Kukanja et al., 2020). Research also emphasizes that digitalization can improve SME competitiveness but requires adequate support in terms of infrastructure, policy, and access to finance (Mittal et al., 2019). However, there is still limited literature focusing on the integration of adaptation, digitalization, and global competitiveness of SMEs within the context of Indonesia. This indicates a research gap that needs to be explored further to provide a more comprehensive understanding.

Based on this background, the purpose of this study is to analyze the role of SMEs in economic growth with a particular focus on adaptation, digitalization, and global competitiveness. This research aims to contribute to the academic literature and provide practical recommendations for policymakers, SME actors, and stakeholders involved in strengthening the resilience and competitiveness of SMEs in the era of globalization and digital transformation.

METHOD

This study employs a qualitative approach with a literature study design, aiming to explore comprehensively the role of Small and Medium Enterprises (SMEs) in economic growth through adaptation, digitalization, and global competitiveness. Literature study was chosen because it enables researchers to systematically analyze theories, previous empirical findings, and relevant policy documents to provide an in-depth understanding of the research problem (Snyder, 2019).

Data Sources

The data sources of this study consist of primary and secondary literature. Primary sources include academic publications such as peer-reviewed journal articles related to SMEs, economic growth, digitalization, and competitiveness. Secondary sources consist of institutional reports from international organizations such as OECD, World Bank, and UNCTAD, as well as government policy documents regarding SME development in the digital era. Sources were selected purposively based on relevance, credibility, and recency, focusing on works published in the last five to ten years.

Data Collection Technique

Data were collected using the documentation method, which involved searching, identifying, and classifying relevant literature through academic databases such as Google Scholar, Scopus, and ProQuest. To ensure reliability, a screening process was applied by setting inclusion and exclusion criteria, such as publication year, direct relevance to the research variables, and methodological alignment (Xiao & Watson, 2019).

Data Analysis Method

The data were analyzed using content analysis, involving the process of coding, categorizing, and interpreting the contents of the literature to identify patterns, themes, and interrelationships among concepts. The analysis was carried out systematically, starting from data reduction, data presentation, and drawing conclusions in line with the objectives of the study (Krippendorff, 2018). Through this method, the research aims to provide both theoretical and practical insights into the strategies SMEs can adopt to strengthen resilience and competitiveness in the context of global economic transformation.

RESULTS AND DISCUSSION

The Role of Adaptation in Strengthening SME Resilience

Adaptive capacity is the central hinge on which SME resilience turns, because shocks—whether macroeconomic, epidemiological, regulatory, or technological—tend to expose structural weaknesses in small firms while rewarding those that can rapidly reconfigure resources, processes, and market linkages (Juergensen et al., 2020). In practice, adaptation spans tactical adjustments (e.g., switching suppliers, renegotiating terms, altering product bundles) and strategic renewal (e.g., re-segmenting customers, migrating to omni-channel models, or redesigning value propositions), and the firms that institutionalize these routines are more likely to sustain employment and output contributions to economic growth through turbulent periods (Kuckertz et al., 2020). The evidence from the COVID-19 crisis is instructive: while demand shocks and mobility restrictions severely affected small businesses, those that reoriented toward digital channels, new partnerships, or adjacent product categories preserved cash flow and, in some cases, unlocked new markets (Bai et al., 2021).

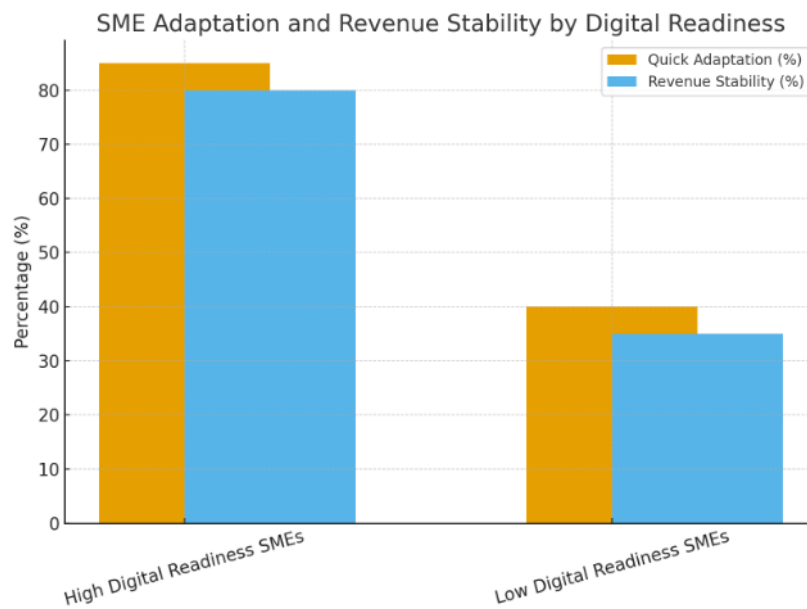


Figure 1. SME Adaption and Revenue Stability by Digital Readiness

A consistent finding across the literature is that adaptation is not ad hoc improvisation but a learning process that blends path-dependent capabilities with new knowledge acquired under pressure (Dwivedi et al., 2020). SMEs that entered the pandemic with higher absorptive capacity—proxied by prior exposure to IT, digitally literate owners/managers, and basic data practices—shifted faster to online customer acquisition, remote operations, and contactless payments, thereby shortening recovery lags (Lu & Shaharudin, 2024). Conversely, firms with thin managerial bandwidth and low digital readiness struggled to pivot, reflecting the “capability divide” that maps closely onto pre-existing gaps in skills and infrastructure. These patterns mirror earlier evidence from Indonesia showing that adoption of e-commerce by SMEs depends on internal readiness (technological, organizational) and external pressures (competition, customer expectations), with clear performance payoffs once adoption occurs (Rahayu & Day, 2017).

Adaptation also operates through business-model innovation—rearranging how value is created, delivered, and captured—rather than isolated technology adoption (Nguyen et al., 2015). Empirical work during the pandemic documents SMEs re-bundling offerings (e.g., subscriptions, smaller pack sizes), reallocating channels toward marketplaces and social commerce, and reconfiguring supply chains to favor resilience over just-in-time efficiency (Cirera & Maloney, 2018). Such changes are frequently coupled with process formalization—inventory visibility, basic CRM, and data-driven pricing—which reduces uncertainty and supports quicker feedback cycles for further adaptation. Importantly, these shifts help small firms meet the threshold requirements

of international buyers—reliability, traceability, and standards compliance—thereby linking adaptation to global competitiveness and export potential.

A concrete case from Indonesia illustrates these dynamics. Priyono, Moin, and Putri (2020) examined Indonesian SMEs that were forced by COVID-19 restrictions to reconfigure their business models; one food-and-beverage SME in their study rapidly migrated sales to e-commerce platforms and on-demand delivery, digitized ordering via messaging apps, and repackaged products for home consumption, while renegotiating supplier terms to stabilize cash flow. The firm complemented these moves with social-media marketing and customer engagement analytics, which together lifted order stability and reduced revenue volatility during lockdowns (Priyono et al., 2020). This micro-evidence echoes broader findings that Indonesian SMEs capable of leveraging platforms such as marketplaces and digital payments improved market reach and operational continuity compared with counterparts that remained offline.

Policy and ecosystem conditions shape the feasibility and speed of such adaptation. Financial frictions, skills gaps, and heterogeneous digital infrastructure continue to slow transformation in many SME segments, suggesting that resilience is co-produced by firm capabilities and the enabling environment. Where governments and industry bodies offered targeted support—grants for IT tools, advisory services for business-model redesign, simplified regulatory procedures, and export facilitation—SMEs reported smoother pivots and better post-shock performance trajectories (OECD, 2021; World Bank, 2020). Taken together, the literature indicates that strengthening adaptive capacity—through managerial learning, incremental digitalization, and process formalization—acts as a powerful conduit from firm-level resilience to sustained contributions of SMEs to national and international economic growth.

Digitalization as a Driver of SME Transformation

Digitalization has become a structural force reshaping how SMEs create, deliver, and capture value, and its influence extends well beyond simple channel shifts to encompass business model redesign, process formalization, and capability building (Priyono et al., 2020; Rahayu & Day, 2017). When SMEs adopt digital tools—ranging from basic social media marketing and marketplace storefronts to integrated e-commerce, digital payments, and simple customer analytics—they are able to extend market reach, reduce transaction costs, and gather actionable customer information that supports faster learning and iteration. Evidence from both cross-country reviews and firm-level studies suggests these gains are not automatic: digital investments must be coupled with organizational changes (e.g., clearer workflows, inventory visibility, and basic digital skills) for technology to translate into sustained productivity improvements (Bai et al., 2021).

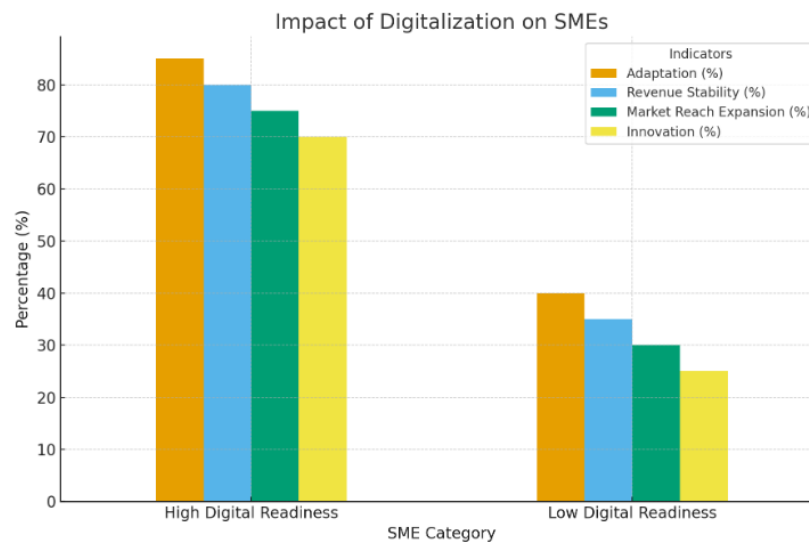


Figure 2. Impact of Digitalization on SMEs

The COVID-19 pandemic highlighted the asymmetric benefits of digital readiness. Firms that already had some digital presence or managerial familiarity with online platforms could pivot rapidly to remote sales, contactless delivery, and alternative supply arrangements, thereby preserving revenue streams and customer ties; firms without that readiness suffered larger revenue shocks and longer recovery lags. Scholars emphasize that digitalization is therefore both an absorptive-capacity issue and a strategic choice: SMEs with prior investments in IT and managerial routines for digital sales absorbed the shock better because they could combine technological affordances with adaptive business model changes, such as bundling, subscription offerings, or micro-packaging for home consumption.

At an operational level, digitalization drives efficiency through process automation, improved coordination with suppliers, and better customer relationship management even when the technologies are modest. For example, basic digital invoicing, inventory tracking, and use of marketplace logistics improve order accuracy and reduce lead times — improvements that matter disproportionately for small firms competing on reliability. Moreover, data generated through digital interactions enable SMEs to refine pricing, promotions, and new product introductions with lower market-testing costs than traditional offline experiments, thereby accelerating learning cycles and lowering the cost of innovation.

Nevertheless, the benefits of digitalization are mediated by a persistent digital divide. Structural constraints — limited broadband and payment infrastructure in many regions, skill gaps among owners and workers, and restricted access to finance for digital investments — mean that adoption rates and the depth of digital usage vary widely, creating a two-tier SME sector (Rahayu & Day, 2017). Policy analyses and empirical studies note that when ecosystem deficiencies remain unaddressed, digitalization risks amplifying inequality across firms and regions: digitally connected SMEs scale and export, while offline firms become trapped in low-value local niches. Therefore, digitalization as a driver of SME transformation must be seen as co-produced by firm capabilities and enabling public-private infrastructure.

A concrete Indonesian example illuminates these dynamics. Priyono, Moin, and Putri (2020) studied multiple Indonesian SMEs during the COVID-19 pandemic and documented several firms that successfully transformed their business models through pragmatic digitalization. One food-processing SME in their case series migrated sales to e-commerce marketplaces, implemented messaging-app ordering for repeat customers, introduced smaller product packages for home consumption, and used low-cost social media advertising to sustain customer engagement; alongside these measures the firm renegotiated supplier terms to preserve cash flow. The combined effect was improved order stability and a significant reduction in revenue volatility during lockdowns, showing how modest digital tools plus business-model adjustments can materially improve resilience (Priyono et al., 2020). This micro-evidence mirrors broader findings that marketplace participation, digital payments, and simple analytics enabled many Indonesian SMEs to recover or expand sales despite mobility restrictions.

In sum, digitalization acts as a powerful enabler of SME transformation when it is embedded within organizational routines, supportive policies, and accessible infrastructure. To maximize its developmental potential, interventions should target both the demand side (market access, platform governance, export facilitation) and the supply side (digital skills training, affordable connectivity, and finance for technology). Without these complementary measures, digitalization risks producing uneven outcomes, but with them it can convert SME adaptability into durable contributions to national and global economic growth.

Global Competitiveness and the Integration of SMEs into International Markets

Global competitiveness has become a defining challenge for SMEs in an era of heightened globalization, where supply chains are increasingly interconnected and market standards more stringent. Unlike large firms that often have the resources to absorb compliance costs, SMEs face significant barriers in meeting international certification requirements, quality standards, and sustainable production practices (Knight & Kim, 2009; Paul et al., 2017). Nevertheless, their flexibility, niche specialization, and capacity for innovation provide opportunities to integrate into global value chains (GVCs), particularly in sectors like creative industries, agribusiness, and digital services where differentiation rather than scale is critical (Narula, 2019). To succeed, SMEs must not only align with international market expectations but also adapt their business models to ensure long-term resilience against competition and global shocks.

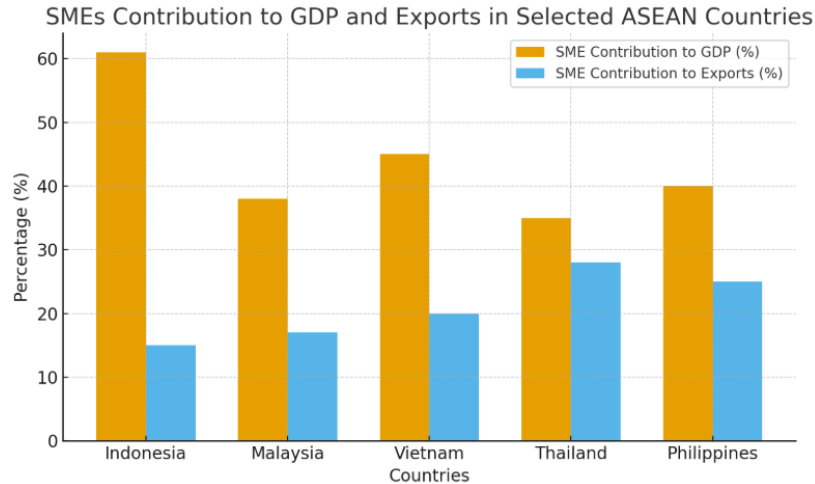


Figure 3. SMEs Contribution to GDP and Exports in Selected ASEAN Countries

One of the major issues is the need to comply with international technical standards and certifications such as ISO or HACCP for food products, which are often costly for small firms. Without external support, many SMEs struggle to penetrate export markets despite having competitive products. Access to finance is another key obstacle, as SMEs in developing economies frequently lack collateral and face high interest rates that restrict their ability to invest in modernization and scaling (Ayyagari et al., 2011; Beck & Demircuc-Kunt, 2006). Infrastructure limitations, particularly in logistics and digital connectivity, also hamper their integration into global supply chains, leaving many SMEs confined to domestic markets.

Yet, the globalization of digital trade offers new pathways for SMEs to participate in international markets. E-commerce platforms such as Alibaba, Amazon, and regional players like Tokopedia and Shopee enable small firms to reach foreign consumers with relatively lower entry costs compared to traditional export channels (Da Rocha et al., 2024). By leveraging digital marketplaces, SMEs can bypass some intermediaries, directly test products with global audiences, and collect valuable data for iterative product improvement. Still, platform dependence can create new vulnerabilities, as SMEs often lack bargaining power in platform governance, face high commission fees, and remain exposed to global market volatility (Kenney & Zysman, 2016).

A concrete case from Indonesia illustrates both the challenges and opportunities of SME globalization. Indonesian batik producers, many of whom are small-scale enterprises, have increasingly penetrated global markets through both government-led export facilitation programs and digital platforms. Research by Nugroho, Rahayu, and Saraswati (2017) showed that SMEs in the batik industry improved competitiveness by adopting digital marketing, upgrading design innovation, and obtaining eco-friendly certifications, which allowed them to access higher-value niche markets in Europe and North America. However, these successes were unevenly distributed, as many SMEs outside major urban clusters lacked sufficient training, digital literacy, and financial resources to internationalize effectively. This case reflects broader findings that while globalization creates opportunities for SMEs, its benefits are contingent on support systems that enhance digital capacity, financing, and standardization (Andansari et al., 2024).

In essence, integrating SMEs into global markets requires a multi-dimensional strategy. Firm-level efforts in innovation and digital adoption must be complemented by supportive policies, including subsidized certification programs, financial instruments tailored for SMEs, and infrastructure investments in logistics and digital networks. Without such measures, SMEs risk being locked out of global value chains, widening inequality between internationally competitive firms and those confined to local markets. With the right ecosystem, however, SMEs can transform from local players into globally competitive enterprises, contributing not only to national economic growth but also to more inclusive globalization.

The Interconnection of Adaptation, Digitalization, and Global Competitiveness

The capacity of SMEs to adapt, digitalize, and compete globally functions not as three separate policy boxes but as a tightly interwoven system in which progress (or failure) on one dimension reshapes possibilities on the others. Adaptation — understood

as the ability of a firm to reconfigure its business model, processes, and market engagement in response to shocks or opportunities — often depends on digital capabilities. Digital tools speed up information flows, enable alternative distribution channels, and reduce search and transaction frictions that otherwise slow adaptive responses. Studies during the COVID-19 era show that SMEs with higher digital readiness were able to re-route sales to online channels, implement contactless logistics, and maintain customer relationships more quickly than their less digitalized peers.

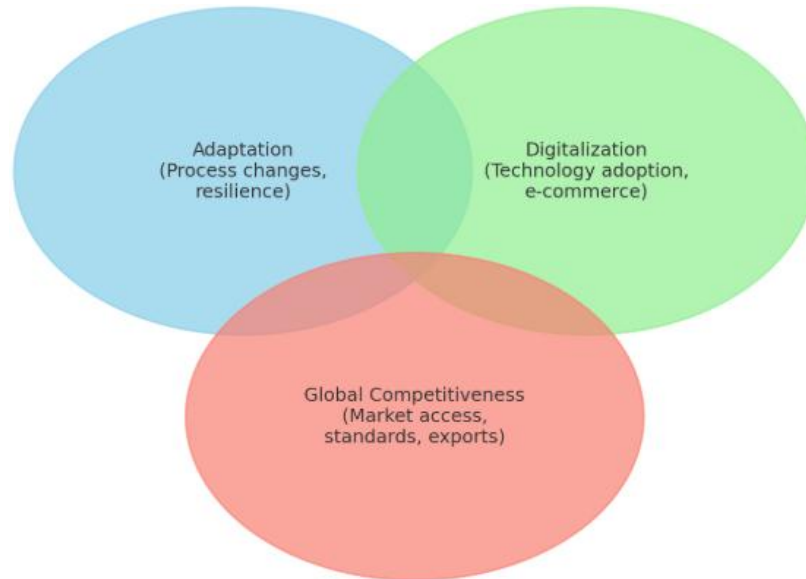


Figure 4. Interconnection of Adaptation, Digitalization and Global Competitiveness in SMEs

Conversely, adaptation can create the conditions required for deeper digitalization and, ultimately, for competing beyond domestic markets. When SMEs adapt by redesigning product bundles, formalizing inventory and order systems, or standardizing production processes, they reduce operational uncertainty that hinders meaningful digital adoption. These organizational changes make investments in e-commerce, digital payments, and analytics both feasible and productive. Research emphasizes that digital investments only translate into productivity and market gains when matched by process change and managerial routines that institutionalize learning and continuous improvement (Kahveci, 2025).

The link from digitalization and adaptation to global competitiveness is equally critical. Digital platforms such as marketplaces, cross-border e-commerce, and digital marketing lower many entry barriers to foreign markets, allowing SMEs to reach niche international demand with far lower upfront costs than traditional export pathways. However, sustainable competitiveness requires meeting quality, traceability, and reliability standards demanded by global buyers, which in turn require both adaptive process changes and digital systems to demonstrate compliance. Competitiveness in global value chains is achieved when SMEs combine digital presence with adapted practices that address conformity to standards, logistics coordination, and customer service expectations.

A concrete Indonesian example can be seen in research on SME responses to the pandemic. Priyono, Moin, and Putri (2020) document cases where SMEs restructured business models — such as repackaging products for home consumption, shifting to marketplace storefronts, and using messaging apps for order management — and paired these adaptations with digital tools to stabilize revenue and access new customers. These firms did not simply “go online”; they changed processes and customer offerings in ways that allowed digital activities to become engines of competitive advantage, including cross-regional sales that had previously been infeasible.

At the ecosystem level, public policy plays a catalytic role because firms rarely internalize all the investments required to move from adaptation to digitalization to competitiveness. International policy analyses argue that interventions such as digital skills training, subsidized certification for export standards, investment in logistics and broadband, and SME-friendly financing instruments reduce fixed costs of transition and broaden the set of SMEs that can benefit from digital-enabled adaptation. Without

these supports, digitalization risks producing a two-tier SME sector: a competitive group that internationalizes, and a lagging group confined to local markets.

In sum, adaptation, digitalization, and global competitiveness form a mutually reinforcing triad: adaptation creates the organizational preconditions for digital technology to be effective; digitalization expands market reach and accelerates adaptive cycles; and together they enable SMEs to meet international standards and contribute more substantially to economic growth. Policy approaches that integrate support for adaptation, digital adoption, and market access are most likely to turn SME-level innovations into sustained contributions to national and global competitiveness (Bai et al., 2021; Kahveci, 2025; ASEAN/OECD, 2024).

Policy Implications and Strategic Recommendations

1. **Government Support:** Strengthen regulatory frameworks and provide targeted financial incentives, such as tax reliefs and low-interest credit schemes, to encourage SMEs to adopt digital technologies and enhance adaptive capacity.
2. **Human Capital Development:** Invest in digital literacy, managerial skills, and innovation training programs tailored for SMEs to build long-term resilience and competitiveness.
3. **Digital Infrastructure Investment:** Expand affordable broadband access, cloud services, and secure payment systems, particularly in rural and semi-urban areas, to reduce the digital divide among SMEs.
4. **Market Integration Facilitation:** Support SMEs in meeting international quality standards, provide export certifications, and create cross-border e-commerce platforms to accelerate global market participation.
5. **Collaborative Ecosystems:** Encourage public–private partnerships, university–industry collaboration, and SME clusters to foster knowledge sharing, innovation, and joint competitiveness in global value chains.

CONCLUSION

This study concludes that SMEs play a pivotal role in sustaining economic growth, provided they can adapt, digitalize, and integrate into global markets. Adaptation allows SMEs to remain resilient during crises, digitalization enhances efficiency and market access, and global competitiveness ensures long-term sustainability in an increasingly interconnected world. These three dimensions are mutually reinforcing and must be pursued in tandem.

In practical terms, SMEs should invest in digital readiness, diversify business models, and pursue certifications that open access to international markets. Policymakers and stakeholders should focus on strengthening digital infrastructure, providing affordable financing schemes, and facilitating skill development to reduce the digital divide. Collaborative ecosystems, including public–private partnerships and industry clusters, are essential to ensure SMEs' competitiveness both domestically and internationally.

The study is limited by its reliance on secondary data from literature reviews, which may not fully capture the diverse realities of SMEs across regions and industries. The absence of primary empirical data restricts the ability to measure the direct impact of specific strategies on SME performance.

Future research should adopt empirical methods, such as surveys, case studies, or mixed-method approaches, to validate the relationships between adaptation, digitalization, and competitiveness. Comparative cross-country studies would also provide valuable insights into how different policy frameworks and ecosystem conditions influence SME resilience and growth in the global economy.

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