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The Role of Digital Transformation in Enhancing MSME Export Capacity: A Scoping Review in Developing Countries

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Abstract

Micro, Small, and Medium Enterprises (MSMEs) are 90% of global businesses today, making them a key driver of GDP and employment, especially in developing countries. It is important to know that MSMEs face a scarcity of resources that hinder international competitiveness. This study uses the scope review method to determine digital transformation (DT) as a catalyst to increase export capacity. This study explains how digital adoption enables MSMEs to navigate the global market. The main findings of this study suggest that DT serves as a major barrier to export reductions, especially during the COVID-19 pandemic. "Strategic Agility" and "Innovation Ability" are the mediating variables that transform digital literacy and government support into export performance. The policy recommendations are to emphasize the need for strong digital infrastructure and targeted structured training to encourage sustainable internationalization.

Keywords: MSMEs, Digital Transformation, Export Capacity, Developing Countries, Strategic Agility, Internationalisation, Innovation Capability.

INTRODUCTION

Micro, small, and medium-sized enterprises are really important for both national and global economies. These MSMEs are the backbone of economies (P. Wulandari et al., 2025). They make up more than 90 percent of all businesses and provide jobs to about 50 to 70 percent of people (Clemente-Almendros et al., 2025). This is true around the world. In countries that are still developing, like Indonesia, MSMEs have an impact (Ulupui et al., 2024; P. Wulandari et al., 2025). They provide jobs to a lot of people and contribute a lot to the country's economy (Samputra & Alfarizi, 2025). MSMEs are good

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at creating jobs and helping the economy grow. So it is really important that these MSMEs do well and keep going. This is important for achieving some goals like giving people good jobs and helping the economy grow. These goals are part of something called the Sustainable Development Goals, the ones that focus on good jobs and economic growth and also industry and infrastructure (P. Wulandari et al., 2025). MSMEs are key to making these goals a reality.

MSMEs in developing countries have a hard time getting into international markets. This is true even though MSMEs are important to the economy. One big problem MSMEs face is that the countries they are in do not have systems in place. For example, the laws and rules are not well developed. This makes it hard for MSMEs to do business because they have to spend money to get things done. MSMEs also have a hard time getting loans and other financial help. They do not have roads and other infrastructure to help them. They do not have enough information about other markets to know where to sell their products (Chopra et al., 2024). All these things make it hard for MSMEs to sell their products in other countries. There is a lot of paperwork. It costs a lot to move products from one country to another (Battisti et al., 2022). This is why many MSMEs do not try to sell their products in other countries. MSMEs face challenges when they try to get into international markets. MSMEs have to deal with a lot of problems.

Digital transformation is really important for companies to stay ahead. It is a process that helps companies change and improve by using digital tools. This includes using Big Data Analytics and Artificial Intelligence (Behl et al., 2022; Faiz et al., 2024). These two things are very important for companies to make decisions. Big Data Analytics helps companies look at a lot of information and understand what it means for their business. This makes companies work better and reduces risks. Artificial Intelligence helps companies make decisions quickly and change how they share information. It also helps companies adapt to changes in the market (Samputra & Alfarizi, 2025). Digital transformation, Big Data Analytics, and Artificial Intelligence all work together to help small companies compete with larger ones. They do this by allowing small companies to reach customers without needing a lot of physical space. Digital transformation, Big Data Analytics, and Artificial Intelligence are very important for small companies to grow and be successful.

The COVID-19 pandemic had an impact on society, and it really sped up the move to digital (Cam Thuy et al., 2023). When governments put lockdown policies in place and limited how people could move around, it messed up the ways that businesses sell things. This meant that medium-sized businesses had to quickly start using digital tools, like

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online stores and social media, to keep running (Samputra & Alfarizi, 2025). Studies show that during this time, businesses that did a good job of moving to digital were better protected from losing international sales (Cam Thuy et al., 2023). Companies that were already using a lot of digital tools were less likely to see their exports go down compared to businesses that were not using digital tools. So using digital tools went from being something that businesses could choose to do to something that they really needed to do to keep selling to other countries in a world that was changing really fast. The COVID-19 pandemic and digital transition changed the way businesses think about digitalization, and the COVID-19 made digitalization a necessary part of doing business for small- and medium-sized businesses.

People are getting more interested in digitalization. There is still a big hole in research when it comes to figuring out how small- and medium-sized businesses in emerging economies are doing this (Clemente-Almendros et al., 2025). Most studies look at companies or businesses in general in wealthy countries, and they do not think about the special problems that small- and medium-sized businesses have in poorer areas. We need studies that look at things like leadership and innovation and how they affect export performance all in one framework that makes sense for small- and medium-sized businesses in developing countries. Digital leadership is important. Innovation is also important, and export performance is key. This study wants to fill the hole by looking at what people have written about digital transformation and how it helps small- and medium-sized businesses export more in developing countries. It will look at what helps and what hurts transformation and what happens when it works.

Theoretical Framework and Literature Mapping

Dynamic Capabilities and Strategic Agility

A framework commonly grounded in theory to explain MSME internationalization is the Dynamic Capabilities framework (Vu et al., 2026), describing how a firm can integrate, build, and reconfigure internal and external competences to address a rapidly changing environment. Within the framework of digital transformation, these capabilities provide MSMEs with the ability to “sense” global market opportunities, “seize” them by adopting the technology (Gupta et al., 2023), and “reconfigure” their business models to remain competitive. Strategic agility has recently emerged as an important mediating variable (P. Wulandari et al., 2025) that empowers MSMEs to flexibly respond to market changes. Digital tools enable companies to have this agility by enabling enhanced responsiveness and efficiency (P. Wulandari et al., 2025), both necessary for navigating

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the intricacies of global trade. This is reinforced by empirical evidence suggesting that MSMEs with higher agile capabilities are more likely to maintain their export performance during disruptive events such as the COVID-19 pandemic (Gupta et al., 2023). Therefore, dynamic capabilities are crucial for MSMEs in developing economies, particularly in supporting their digitalization efforts and ensuring their survival in turbulent environments. This adaptability is particularly salient for emerging market firms, where market-seeking internationalization directly contributes to the acquisition of dynamic capabilities, facilitating technological upgrades and digital transformation through both knowledge acquisition and endogenous learning-by-doing (Li et al., 2025).

Strategic agility serves as a vital mediating mechanism that bridges the gap between internal resources—such as digital marketing literacy and process innovation—and tangible export competitiveness (S. S. Wulandari et al., 2026). Within this framework, agility is not merely a technical adjustment but an organizational capacity to 'sense' international market shifts, 'seize' emerging global opportunities through rapid decision-making, and 'reconfigure' operational routines to maintain alignment with volatile environments (S. S. Wulandari et al., 2026). Empirical evidence underscores that strategic agility can explain a substantial portion of the variance in MSME competitiveness, particularly when digital literacy is used as a foundation for adaptive mindsets (S. S. Wulandari et al., 2026).

Artificial Intelligence and Organizational Information Processing

Organizational Information Processing Theory posits that organizations must align their information processing capacity with the level of environmental uncertainty to achieve effective performance (Behl et al., 2022). For micro-small-and medium-sized enterprises in developing countries, entering global markets entails exceptionally high uncertainty due to unfamiliar regulations, diverse consumer behaviors, supply chain volatilities, cultural differences, and economic fluctuations (Behl et al., 2022). Digital transformation—particularly the integration of Artificial Intelligence and Big Data Analytics—provides the essential impetus for augmenting this capacity, helping MSMEs overcome technology resource limitations and high risk (Behl et al., 2022). AI enhances decision-making through automated data analysis, pattern recognition, predictive modeling, and real-time insights into dynamic market trends and customer preferences (M. Wang & Dai, 2025). This AI-driven transformation optimizes production, supply chain, and marketing processes, thereby substantially improving operational performance and

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expanding opportunities for international growth by reinforcing and scaling MSMEs' existing data-driven strategies (M. Wang & Dai, 2025).

Determinants of MSME Internationalization and Export Performance

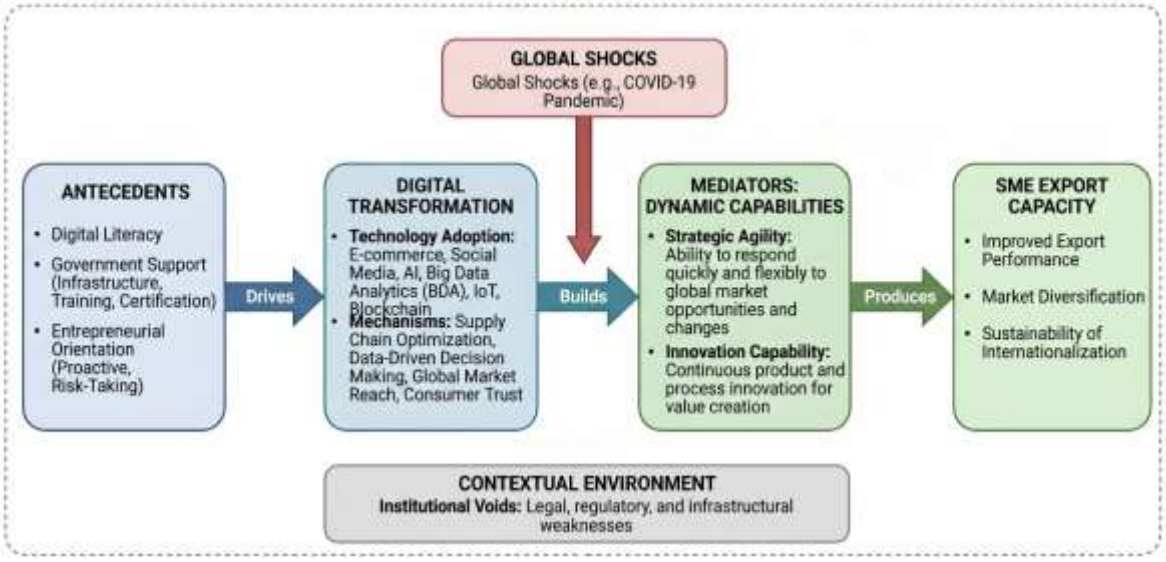
Several determinants emerged from the literature enabling MSMEs to achieve the "Go International" status, with digital transformation as the foundational enabling force (Clemente-Almendros et al., 2025; P. Wulandari et al., 2025). Digital Literacy – MSME operators' ability to use digital platforms for marketing, data management, and market expansion (P. Wulandari et al., 2025). Advanced digital literacy is essential for scaling e-commerce and social media platforms across borders to penetrate and reach a worldwide audience (P. Wulandari et al., 2025). This can be achieved by instituting institutional support to bring digital infrastructure development, technical training, and export facilities to an MSME (P. Wulandari et al., 2025). Programs like the e-smart catalogs and trade matching missions are essential to fill the current gaps in these "institutional voids" of emerging economies (Soliman et al., 2023).

Process and Product Innovation: Constant innovation is how MSMEs provide value both in terms of quality and price (Clemente-Almendros et al., 2025). With digitalization in the supply chain, firms can use new technologies, improve products, and implement their products at the factory level because of the new technologies that are available to them so that these may cater to international markets (Clemente-Almendros et al., 2025). Entrepreneurial Orientation – Proactiveness, risk-taking, and innovativeness characterize the kind of entrepreneurial orientation that it takes to globalize successfully (Adam et al., 2024). Adam et al., (2024) usinesses with a high EO scale are more likely to use digital tools to find new business opportunities and to develop networks which link to a worldwide business presence (Samputra & Alfarizi, 2025; Vu et al., 2026). Samputra & Alfarizi (2025) dan Vu et al., (2026) combined, they create a win-win ecosystem of digital transformation and increased competitiveness for MSMEs as the high-level transformation lowers export hurdles and improves long-term survival of the MSMEs in the worldwide market (Faiz et al., 2024; P. Wulandari et al., 2025).

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Figure 1. Conceptual Framework



Source: Author's Work, 2026.

METHOD

This scoping review's research methodology aims to deliver a clear, robust, and reproducible overview of the literature on the intersection between digital transformation and the export capabilities of Micro, Small, and Medium Enterprises. The study rigorously follows the PRISMA-ScR guidelines, an extension of PRISMA specifically designed for scoping reviews, which provides a structured framework for identifying, selecting, and charting relevant studies (Chopra et al., 2024). Using a structured checklist, this approach enhances transparency, repeatability, and minimizes interpretive bias, ensuring the literature synthesis is theoretically robust and practically relevant for understanding how digital technologies bolster MSME export performance (Chopra et al., 2024).

This systematic methodology combines systematic literature review, structured content analysis, and bibliometric techniques, enabling a comprehensive mapping of existing research on digital transformation's role in MSME internationalization (Chopra et al., 2024). Bibliometric tools such as VOSviewer and bibliometrix in R facilitate visualization of publication trends, author collaborations, thematic maps, and keyword networks, while content analysis extracts key themes like export strategies and digital adoption (Chopra et al., 2024; P. Wulandari et al., 2025). By integrating these methods,

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the review not only identifies knowledge gaps but also highlights dynamic patterns in SME export promotion, aligning with evolving global digital economies (Chopra et al., 2024).

The subsequent sections outline the five primary phases of the methodological framework. This review is directed by targeted research objectives designed to trace the developmental trajectory of digital adoption in international trade contexts. The key questions explored include: what are the primary drivers of digital transformation among MSMEs in developing economies, such as competitive pressures and technological advancements (Cam Thuy et al., 2023; Faiz et al., 2024) in what ways does the integration of cutting-edge technologies mitigate export declines amid global disruptions, particularly during crises like COVID-19 (Cam Thuy et al., 2023) and how do strategic agility and innovation capacity mediate the conversion of digital literacy into enhanced global competitiveness (P. Wulandari et al., 2025). A systematic search protocol was formulated to thoroughly investigate the diverse areas of export promotion and digital approaches (P. Wulandari et al., 2025). Primary data were sourced from Scopus, the most extensive database of peer-reviewed literature encompassing over 20,000 titles, which excels in charting nascent or niche research domains like digital entrepreneurship in emerging markets (Chopra et al., 2024). Search incorporated a blend of keywords from titles, abstracts, and keywords related to export, trade, market strategies, and small businesses.

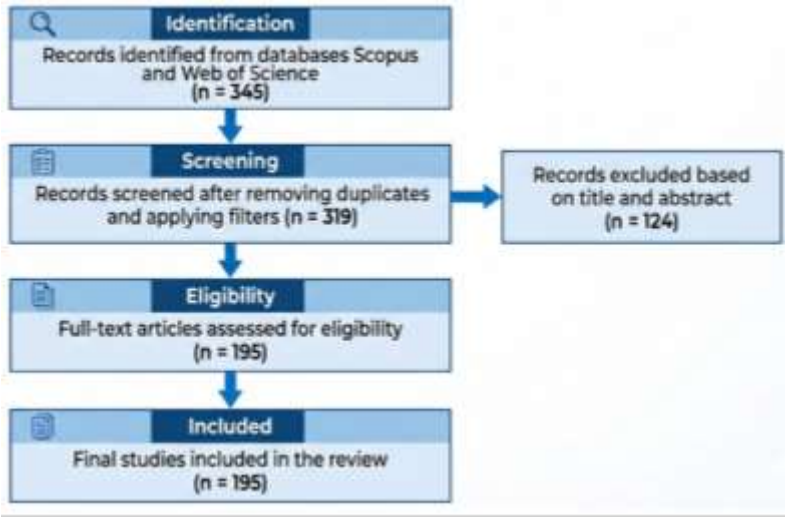
The preliminary search yielded 345 records. The dataset was narrowed using these selection standards: time frame of peer-reviewed articles from 2000 to 2024 to reflect the contemporary digital landscape; document type restricted to journal articles, reviews, and conference proceedings, omitting editorials and technical reports; subject area limited to Business, Management, and Accounting disciplines; and language solely formal English-language publications. This refinement left 319 documents.

After initial filtering, a qualitative review of authors was conducted to remove papers misaligned with the research aims, such as those centered exclusively on multinational corporations or disconnected from export outcomes. This step produced a curated set of 195 rigorous scholarly articles for integration.

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Figure 2. PRISMA Diagram



Source: Author's Work, 2026.

To extract profound insights and pinpoint research hotspots, the analysis employed complementary software-based methods. Bibliometric analysis using VOSviewer and R-bibliometrix mapped citation patterns, international collaborations, and author co-citation networks, revealing thematic similarities and clusters (Chopra et al., 2024; P. Wulandari et al., 2025). Qualiitative content analysis of selected documents underwent interpretive categorization to uncover recurring motifs, progressing from informant-driven "first-order" codes to researcher-derived "second-order" themes (Chopra et al., 2024; P. Wulandari et al., 2025). Triangulation validated findings by cross-verifying data from scholarly works and institutional documents. This integrated mixed-methods strategy establishes a solid basis for delineating the pivotal factors empowering MSMEs to thrive in international markets (Chopra et al., 2024; Meiryani, 2024).

DISCUSSION

Thus, these in-depth results of this scoping review reveal that digital transformation has emerged not as a secondary business strategy but rather as a core determinant of international competitiveness for MSMEs from developing countries (Cam Thuy et al., 2023). The next subsections elaborate on the thematic clusters discovered in the literature.

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Digital Transformation as a Buffer Against Export Volatility

From developing countries, for example Vietnam, the empirical evidence indicates that digital transformation acts as a powerful counter-balance to export contraction in emergencies (Cam Thuy et al., 2023). Thuy et al., (2023) firms that implemented digital means before or at the early stage of the COVID-19 pandemic notably lowered their chances of suffering overseas sales decreases (Cam Thuy et al., 2023). This protective effect is noted due to the financial constraints being alleviated with improved management board capability. On the other hand, digitalisation creates information-sharing transparency between companies and external investors which lowers information costs and improves the accessibility of capital necessary for innovation. Digitised tools also help companies build brand recognition in international markets and give companies more access to knowledge they need to succeed globally, consequently easing the journey towards internationalisation.

The Role of Firm Size in Digital Effectiveness

An important discovery within the literature seems to be that the consequence of digital transformation varies with firm size (Cam Thuy et al., 2023). Adoption has a positive impact for everyone, but it plays a bigger role in preventing export reduction at MSMEs, compared to large-scale enterprises (Cam Thuy et al., 2023). This paradox is explained by the fact that large firms often run large trade networks with significant reserves of resources and reserves of their own that allow them to resist shocks whether they have moved to a more digital environment or not (Cam Thuy et al., 2023). On the other hand, MSMEs tend to use digital technology to leverage operating processes rather than undertaking sophisticated structural re-organisations. Bigger organisations can need additional time to change their business model in a time of crisis, so their tech innovations could be acted upon too ad hoc or too much too soon, rather than acting nimbly as small firms do.

Strategic Agility and Innovation as Key Mediators

However, export success with respect to digital transformation is not necessarily the product of digital transformation but instead works through mediating factors including, but not limited to, strategic agility and innovation competence (P. Wulandari et al., 2025). Strategic agility is an MSME's capacity to respond to opportunities in the global market rapidly, flexibly, and adaptively. Digital literacy is a base, and that lets firms enter

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larger markets and react to environmental changes in a flexible manner. Table 2 summarizes the relationship between these two variables.

Table 1. Role Export Capacity

Variable	Role in Export Capacity	Source
Digital Literacy	Enables understanding and utilisation of tools for global transactions and marketing.	(Amado Mateus et al., 2024; Cam Thuy et al., 2023; Faiz et al., 2024; Gutiérrez Navas et al., 2025; Y. B. Lestari, 2024; Samputra & Alfarizi, 2025; P. Wulandari et al., 2025; Zhu et al., 2023)
Strategic Agility	Acts as the link between digital adoption and the ability to pivot strategies in volatile markets.	(Fahrudi et al., 2026; Gupta et al., 2023; Pelletier et al., 2025; Vu et al., 2026; J. Wang et al., 2026; P. Wulandari et al., 2025; Zahoor et al., 2022)
Process Innovation	Strengthens operational systems to handle international orders without compromising quality.	(Fahrudi et al., 2026; Gupta et al., 2023; Pelletier et al., 2025; Vu et al., 2026; J. Wang et al., 2026; P. Wulandari et al., 2025; Zahoor et al., 2022)
Government Support	Provides the external scaffolding (infrastructure and training) necessary for digital onboarding.	(Deshmukh et al., 2026a; Faiz et al., 2024, 2024; Marinelli et al., 2024; Mukherjee, 2018; Nguyen et al., 2026; Samputra & Alfarizi, 2025; P. Wulandari et al., 2025)

Source: Author's Work, 2026.

The findings indicate that digital transformation does not automatically translate into improved export performance; rather, it functions through the lens of strategic agility (S. S. Wulandari et al., 2026). This is particularly evident in how MSMEs utilize digital data analytics to 'sense' shifts in consumer trends and 'reconfigure' their product offerings—such as transitioning to eco-friendly packaging or healthy menu options—to meet international demands (S. S. Wulandari et al., 2026). Quantitative analysis suggests that strategic agility acts as a conduit that transforms institutional support and digital proficiency into a 71% variance in adaptive capacity, allowing small firms to pivot their

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marketing strategies more efficiently than larger, more rigid counterparts (S. S. Wulandari et al., 2026; Zahoor et al., 2022). Consequently, strategic agility is the 'link' that prevents de-internationalization by ensuring that digital tools are integrated into a broader culture of flexibility and market responsiveness (S. S. Wulandari et al., 2026).

Impact of Specific Technologies: AI, BDA, and IoT

Advanced technologies perform unique functions with respect to improving MSME export capacity. Big Data Analytics plays a vital role in supply chain coordination because it helps companies bring together intelligence from both internal and external sources to make strategic decisions (Behl et al., 2022). BDA also generates “swift trust” among geographically dispersed partners, which is significant for the short-term collaborative teams in international trade (Behl et al., 2022). The power of Artificial Intelligence to make production systems even more transformative is by reshaping the information flows and bolstering cognitive resilience (Behl et al., 2022). AI not only automates data analysis but provides firms with real-time insights regarding market trends, helping firms to anticipate potential disruptions before they occur (Behl et al., 2022). In a like manner, the Internet of Things provides real-time monitoring of inventory and real-time monitoring of production for MSMEs, thus enhancing operational efficiencies and reducing costs (Mulchandani et al., 2023; Samputra & Alfarizi, 2025).

Institutional Voids and Contextual Barriers

MSMEs in less developed countries encounter specific problems, known as ‘institutional voids’ including underdeveloped legal infrastructure, weak regulation and poor infrastructure (Marinelli et al., 2024). The same voids drive up transaction costs, and lead to a “digital divide,” as the smaller companies fall behind their larger counterparts in terms of resources and specialised expertise (Marinelli et al., 2024). To close these gaps, the literature also highlights knowledge ecosystems/KEs with “Knowledge Brokers” as the main catalyst (Marinelli et al., 2024). Digital innovation hubs serve as KBs that connect MSMEs to academic researchers and technical intermediaries and governmental service providers, hence reducing the uncertainties and costs of digital transformation (Marinelli et al., 2024).

Policy and Managerial Implications

For MSME managers, the findings imply a successful internationalisation involves a 'data-driven' culture and entrepreneurial “orientation” towards the environment and

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entrepreneurial spirit when it comes to making internationalisation successful (J. Wang et al., 2026). Managers are urged to foster human and technical capacity to ensure that digital tools fit into a wider strategy of innovation and risk management (Susanti et al., 2023). At the policy level, governments in developing nations must do more than just give technology people. Providing support, including access to the 5G network, through incentives, financial ones such as financial and fiscal backing and education and training specifically tailored to meet the specific needs of different sectors, is important for success (Deshmukh et al., 2026b; Fahrudi et al., 2026). In the absence of such institutional support, MSMEs are at risk of encountering technological disruption and might face an uphill climb to sustain competitive advantage in the globalised economy (Fahrudi et al., 2026).

Halal Standards and their Role in Global Value Chains

One of the very important findings from the literature is on the expansion of MSME export capacity through Halal Value Chain integration (Hasibuan & Lubis, 2024). In Indonesia, the halal food sector is a key driver of internationalisation and the world Muslim food expenditure will reach $1.27 trillion by 2025 (Hasibuan & Lubis, 2024). MSMEs in this sector proved their robustness and are now turning to other countries of the Organisation of Islamic Cooperation (Hasibuan & Lubis, 2024). This has been enabled through digital transformation that simplifies the halal certification process, which is frequently discussed as a barrier on account of cost and administrative complexity (Hasibuan & Lubis, 2024; Susanty et al., 2024). Digital tracking and blockchain-based traceability systems help MSMEs satisfy tight international halalan thayyiban standards and improve consumer confidence and brand equity within the global industrial landscape (Hasibuan & Lubis, 2024). In addition, for small firms, government programmes such as SEHATI that offer MSMEs free halal certification implement a digital platform to access the global halal market faster (Hasibuan & Lubis, 2024; Susanty et al., 2024).

The Effects of Regional Agreements for Trade – The Case of the RCEP

It is well-documented in literature that the Regional Comprehensive Economic Partnership is a key external catalyst enhancing MSME export capacity (Karim et al., 2023). Indonesia expects RCEP will benefit 60 million MSMEs by streamlining export processes (Karim et al., 2023). Digitalisation plays a dual role: it gives a pathway for companies to move along through the graded process of liberalisation, but at the same time, it allows one type of certificate of origin to be used to export to all RCEP member

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countries (Karim et al., 2023). This trade collaboration cuts down on institutional challenges and enables MSMEs to apply what is known as Asia's role as the 'engine of world economic growth' (Karim et al., 2023). Digital tools allow companies to "sense" this gradual shift in regulation and to reconfigure their logistics so they can benefit from what appears to be outward liberalisation (Karim et al., 2023).

Generational Resilience and Digital Adaptability

An emerging aspect of the scoping review is the participation of Millennial and Generation Z entrepreneurs in digital-led internationalisation (Samputra & Alfarizi, 2025). In areas of the world like Surabaya, Indonesia, younger entrepreneurs are highly digitally agile and are able to apply technologies of advanced Society 5.0 like Big Data and blockchain to their own businesses (Samputra & Alfarizi, 2025). They are characterized by a more entrepreneurial orientation in that younger generations are more adventurous to risk their business and are more proficient in leveraging technology to create cutting-edge products for global markets (Samputra & Alfarizi, 2025). In contrast to necessity-oriented entrepreneurs which may be subjected to ‘kin tax’ or capital misallocation, the growth-minded millennial MSMEs harness the power of social media and e-commerce to grow fast and to make connections beyond their base of operation (Samputra & Alfarizi, 2025).

Fintech Adoption and Financial Resilience

Access to external finance remains crucial to the growth of MSMEs and the capacity for export. FinTech adoption on the basis of digital transformation has now come to be recognized as an important instrument in building the operational resilience of MSMEs in developing countries. Comparative studies in Indonesia with developed settings such as Hungary have shown that Indonesian MSMEs exhibit more trust in government-supported digital financial services, which facilitates their adoption. Fintech supports international trade by equalization of credit provision, minimising financial volatility and providing tailored products to small exporters. Moreover, the implementation of the Cash Waqf Linked Sukuk serves as a novel Islamic form of finance for the financing of the production machinery, building structures, which can play a pivotal role in foreign market penetration (Hasibuan & Lubis, 2024).

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Table 2. Digital Transformation Mechanisms in MSME Export Capacity)

Digital Mechanism	Strategic Impact on Export Capacity	Supporting Evidence
Blockchain Traceability	Enhances halal integrity and global consumer trust.	(Hasibuan & Lubis, 2024; Nguyen et al., 2026; Susanty et al., 2024)
Big Data Analytics	Optimises supply chain coordination and decision-making.	(Behl et al., 2022; Fahrudi et al., 2026; Raj et al., 2024; Samputra & Alfarizi, 2025; J. Wang et al., 2026; Zhu et al., 2023)
E-commerce Platforms	Facilitates market reach without physical infrastructure.	(Behl et al., 2022; E. P. Lestari et al., 2024, 2024; Liu et al., 2025; Nguyen et al., 2026; Samputra & Alfarizi, 2025; P. Wulandari et al., 2025)
Fintech Adoption	Mitigates institutional voids and credit constraints.	(Cheratian et al., 2024; Faiz et al., 2024; Kumarasamy et al., 2024; Liu et al., 2025; Marinelli et al., 2024; Nagy et al., 2025; Soliman et al., 2023; Tang et al., 2025)
Digital Certification	Reduces time and cost barriers for international standards.	(Cam Thuy et al., 2023; Gutiérrez Navas et al., 2025; Hasibuan & Lubis, 2024; Karim et al., 2023; Raj et al., 2024; Susanty et al.,

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Digital Mechanism	Strategic Impact on Export Capacity	Supporting Evidence
		2024; Tomás et al., 2025; S. S. Wulandari et al., 2026)

Source: Author's Work, 2026.

CONCLUSION

We believe that this scoping review supports the notion that digital transformation is a key driver for MSMEs in developing nations to overcome 'institutional voids' and achieve 'Go International' status (S. S. Wulandari et al., 2026). Moreover, DT extends beyond mere technical tools, enabling profound strategic renewal that fosters agility and innovation capabilities (Tomás et al., 2025). The key findings are (1) Resilience through Digitalisation: DT acts as a vital buffer against export declines during global shocks (Cam Thuy et al., 2023). Thus, MSMEs reap greater profits from digital transformation than larger firms due to their inherent adaptability (Cam Thuy et al., 2023); (2) Institutional and Policy Synergy: Government support proves most effective when it surpasses technical aid to encompass digital infrastructure, free certification programs, and trade liberalization missions (Faiz et al., 2024; S. S. Wulandari et al., 2026); (3) Human Capital and Generations: Digital strategy success hinges on owner-managers' digital literacy and entrepreneurial orientation with younger generations pioneering advanced Society 5.0 technologies (Samputra & Alfarizi, 2025; Zaimovic et al., 2025); (4) Policy Recommendations: Governments should establish 'Knowledge Ecosystems' as hubs for digital innovation, linking MSMEs with academic institutions and global markets (Marinelli et al., 2024). Marinelli et al., (2024) targeted financial incentives for Industry 4.0 adoption, alongside expanded Islamic financial instruments like CWLS, will play a pivotal role in providing capital for sustainable MSME internationalization over the long term (Tang et al., 2025). Future studies should employ longitudinal methods to track the enduring effects of these digital interventions on MSME sustainability across developing countries.

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