
Strategies for Strengthening the Competitiveness of MSMEs in Driving Economic Growth in Border Areas in the Digital Era and Regional Market Integration

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Abstract

Micro, Small, and Medium Enterprises (MSMEs) play a significant role in promoting economic growth, employment generation, and regional development, particularly in border areas that serve as strategic gateways for cross-border economic activities. However, MSMEs in border regions often face challenges related to limited infrastructure, restricted market access, low technological adoption, and increasing competition within integrated regional markets. This study aims to analyze strategies for strengthening the competitiveness of MSMEs in driving economic growth in border areas within the context of the digital era and regional market integration. The research employs a literature review approach by examining relevant scholarly articles, books, institutional reports, and conference proceedings published between 2015 and 2025. The findings indicate that digital transformation is a critical factor in enhancing MSME competitiveness through improved market access, operational efficiency, innovation, and customer engagement. Furthermore, regional market integration provides opportunities for MSMEs to participate in broader markets and regional value chains, thereby increasing their growth potential. However, realizing these benefits requires supportive policies, digital infrastructure development, financial inclusion, entrepreneurial capacity building, and collaborative governance involving multiple stakeholders. The study concludes that strengthening MSME competitiveness through digitalization and regional integration is essential for fostering sustainable economic growth, improving regional connectivity, and enhancing the economic resilience of border communities.

Keywords

MSMEs, competitiveness, digital transformation, border areas, regional market integration,



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INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a strategic role in supporting economic growth, creating employment opportunities, reducing poverty,

and promoting regional development in many developing countries. In border areas, MSMEs are particularly important because they serve as economic drivers that connect local communities with national and international markets. Border regions often possess significant economic potential due to their geographical proximity to neighboring countries, enabling cross-border trade, cultural exchange, and investment opportunities. However, despite these advantages, MSMEs operating in border areas frequently face structural challenges, including limited infrastructure, restricted access to finance, low technological adoption, inadequate human resource capabilities, and weak market connectivity. These obstacles hinder their ability to compete effectively in increasingly integrated regional markets and rapidly evolving digital economies. Consequently, strengthening the competitiveness of MSMEs has become a critical policy agenda for governments seeking to promote inclusive economic growth and sustainable regional development (Tambunan, 2019).

The emergence of the digital era has transformed the business environment and created new opportunities for MSMEs to expand their market reach beyond local boundaries. Digital technologies such as e-commerce platforms, social media marketing, digital payment systems, cloud computing, and data analytics have enabled small businesses to improve operational efficiency, reduce transaction costs, and engage with customers more effectively. According to the Organisation for Economic Co-operation and Development (OECD, 2021), digital transformation can significantly enhance MSME productivity and competitiveness by facilitating innovation, improving access to information, and expanding participation in global value chains. For MSMEs in border areas, digitalization offers a unique opportunity to overcome geographical limitations and establish stronger connections with domestic and international consumers. Nevertheless, many MSMEs continue to encounter barriers related to digital literacy, technological infrastructure, cybersecurity concerns, and investment capacity, which limit their ability to fully utilize digital technologies for business growth (OECD, 2021).

In addition to digital transformation, regional market integration has become a major force shaping the competitive landscape of MSMEs. Economic integration initiatives such as the ASEAN Economic Community (AEC) aim to create a single market and production base characterized by the free flow of goods, services, investment, and skilled labor. These developments generate both opportunities and challenges for MSMEs located in border regions. On the one hand, market integration opens access to larger consumer markets, facilitates cross-border trade, and increases opportunities for collaboration with regional business partners. On the

other hand, intensified competition from foreign firms requires MSMEs to improve product quality, innovation capacity, operational efficiency, and market responsiveness. Therefore, the ability of MSMEs to adapt to changing market dynamics is increasingly important for maintaining their competitiveness and ensuring long-term sustainability (Asian Development Bank [ADB], 2020).

Competitiveness in the MSME sector is influenced by multiple internal and external factors. Internal factors include entrepreneurial competence, innovation capability, business management practices, financial literacy, and technological readiness. External factors encompass government policies, infrastructure availability, access to financing, institutional support, and market conditions. Porter (1990) emphasizes that competitiveness is shaped by the interaction between firm capabilities and the broader business environment. In the context of border areas, competitiveness is further affected by cross-border economic interactions, logistics efficiency, customs regulations, and the availability of regional cooperation mechanisms. Consequently, strengthening MSME competitiveness requires a comprehensive approach that integrates capacity building, technological development, financial inclusion, and supportive policy frameworks.

Several studies have highlighted the positive relationship between MSME development and regional economic growth. Research indicates that competitive MSMEs contribute significantly to job creation, income generation, local economic diversification, and resilience against economic shocks (Beck et al., 2005). In border regions, MSMEs can function as catalysts for economic integration by facilitating trade flows and fostering socio-economic linkages between neighboring countries. Furthermore, the adoption of digital technologies can amplify these contributions by enabling businesses to participate in broader market networks and enhance value creation processes. Therefore, strategic efforts aimed at strengthening MSME competitiveness are essential not only for business sustainability but also for accelerating economic development in border communities (World Bank, 2022).

Given the growing importance of digital transformation and regional market integration, it is necessary to examine strategies that can enhance the competitiveness of MSMEs in border areas. Such strategies may include digital capacity development, innovation enhancement, improved access to financial services, infrastructure modernization, market diversification, and stronger collaboration among government institutions, private sectors, and local communities. Understanding these strategic dimensions is crucial for designing effective policies and interventions that empower MSMEs to thrive in an increasingly interconnected economic

environment. Therefore, this study explores strategies for strengthening the competitiveness of MSMEs in driving economic growth in border areas within the context of the digital era and regional market integration, with the objective of identifying key factors that support sustainable and inclusive economic development..

METHODS

This study employed a literature review approach to systematically examine strategies for strengthening the competitiveness of Micro, Small, and Medium Enterprises (MSMEs) in promoting economic growth in border areas within the context of the digital era and regional market integration. The review process involved identifying, selecting, and analyzing relevant scholarly publications from reputable databases, including Google Scholar, Scopus, ScienceDirect, SpringerLink, and Emerald Insight. The search was conducted using keywords such as *MSME competitiveness*, *border area economic development*, *digital transformation of SMEs*, *regional market integration*, *cross-border trade*, and *digital entrepreneurship*. Articles published between 2015 and 2025 were prioritized to capture recent developments and contemporary perspectives. Inclusion criteria consisted of peer-reviewed journal articles, conference proceedings, books, and institutional reports that discussed MSME competitiveness, digitalization, innovation, and economic integration in border or peripheral regions. The collected literature was then critically reviewed, categorized, and synthesized using thematic analysis to identify recurring patterns, challenges, opportunities, and strategic recommendations. Through this approach, the study provides a comprehensive understanding of the factors influencing MSME competitiveness and the strategic measures required to enhance their contribution to sustainable economic growth in border areas..

FINDINGS AND DISCUSSION

Digital Transformation as a Strategic Instrument for Strengthening MSME Competitiveness in Border Areas

The digital era has fundamentally transformed the business landscape, creating new opportunities for Micro, Small, and Medium Enterprises (MSMEs) to enhance their competitiveness and expand their market reach. For MSMEs operating in border areas, digital transformation is particularly important because geographical isolation, limited infrastructure, and restricted market access often constrain business growth. The adoption of digital technologies enables enterprises to overcome these limitations by facilitating

communication, reducing transaction costs, improving operational efficiency, and connecting businesses with broader domestic and international markets. Digital platforms such as e-commerce marketplaces, social media, digital payment systems, and cloud-based business management tools have become essential instruments for increasing productivity and competitiveness in an increasingly interconnected economy (Nambisan et al., 2019).

One of the most significant contributions of digital transformation is the expansion of market access. Traditionally, MSMEs in border regions rely heavily on local consumers and informal trade networks. Such dependence often limits growth potential because local markets tend to have relatively low purchasing power and limited demand. Through digital platforms, however, MSMEs can market their products and services to customers across regions and even across national borders. E-commerce platforms provide opportunities for businesses to showcase products, interact with customers, and conduct transactions without the constraints of physical distance. Research by Kraus et al. (2021) demonstrates that digital technologies facilitate business scalability by enabling enterprises to reach larger customer segments and improve market responsiveness. Consequently, digitalization allows border-area MSMEs to participate more actively in national and regional value chains.

Another important aspect of digital transformation is its contribution to operational efficiency. Digital tools help businesses manage inventory, monitor sales performance, coordinate supply chains, and analyze customer behavior more effectively. Small enterprises often struggle with resource limitations, making efficiency improvements crucial for maintaining competitiveness. The implementation of digital business systems enables entrepreneurs to streamline processes and allocate resources more strategically. According to Verhoef et al. (2021), digital transformation enhances organizational agility by supporting data-driven decision-making and improving the ability of firms to respond to changing market conditions. For MSMEs located in border areas where logistical and operational challenges are common, digital solutions can significantly reduce inefficiencies and improve overall business performance.

Innovation also plays a central role in digital competitiveness. Digital technologies encourage MSMEs to develop new products, services, and business models that better align with customer needs. Innovation is particularly important in border regions where businesses face competition not only from domestic enterprises but also from firms operating in neighboring countries. Through digital channels, entrepreneurs gain access to market information, customer feedback, and emerging industry trends, enabling them to identify opportunities for innovation. Digital innovation contributes to product differentiation and value creation, which are essential factors in maintaining competitive advantage. Studies indicate that firms embracing digital innovation are more likely to achieve sustainable growth and adapt successfully to dynamic business environments (Autio et al., 2021).

Despite these opportunities, the digital transformation of MSMEs in border areas faces several challenges. One major obstacle is the digital divide, which refers to unequal access to digital infrastructure and technological resources. Many border regions continue to

experience inadequate internet connectivity, limited telecommunications infrastructure, and insufficient technological support services. These conditions reduce the ability of entrepreneurs to adopt and utilize digital tools effectively. Furthermore, many MSME owners possess limited digital literacy, making it difficult for them to implement digital technologies in their business operations. As highlighted by Ratten (2022), digital competence is increasingly becoming a critical determinant of entrepreneurial success in modern economies. Therefore, investments in digital skills training and technology education are essential for improving MSME competitiveness.

Access to financial resources represents another challenge in digital transformation efforts. The implementation of digital technologies often requires investments in hardware, software, training, and cybersecurity measures. Many MSMEs, particularly micro-enterprises, face financial constraints that limit their ability to adopt advanced technologies. Financial institutions and government agencies therefore play an important role in supporting digitalization through funding programs, technology grants, and capacity-building initiatives. Research by Zeng et al. (2023) emphasizes that financial support significantly influences the adoption of digital technologies among small businesses and contributes to long-term competitiveness.

Government policy is equally important in facilitating digital transformation. Public policies aimed at improving digital infrastructure, expanding internet accessibility, and supporting digital entrepreneurship can create an enabling environment for MSME growth. Governments can also establish innovation hubs, digital training centers, and collaborative platforms that encourage knowledge sharing and technological adoption. In border areas, such interventions are particularly necessary because these regions often receive less economic investment compared to urban centers. The development of supportive digital ecosystems can help reduce regional disparities and strengthen the participation of border-area MSMEs in the digital economy (UNCTAD, 2021).

In addition, collaboration among stakeholders is critical for successful digital transformation. Partnerships involving government institutions, universities, private-sector organizations, financial institutions, and community groups can facilitate access to technology, expertise, and market opportunities. Collaborative networks contribute to knowledge transfer and innovation development while reducing barriers to technology adoption. Such partnerships are especially valuable in border regions where institutional resources may be limited. Therefore, digital transformation should be viewed not only as a technological process but also as a collaborative strategy for strengthening economic resilience and competitiveness among MSMEs.

Overall, digital transformation represents a powerful mechanism for enhancing the competitiveness of MSMEs in border areas. Through improved market access, operational efficiency, innovation capability, and stakeholder collaboration, digital technologies can help businesses overcome geographical limitations and participate more effectively in regional and global markets. However, realizing these benefits requires coordinated efforts to address

infrastructure gaps, financial constraints, and digital literacy challenges. Consequently, digital transformation should remain a central component of strategies aimed at promoting sustainable economic growth in border regions.

Regional Market Integration and Collaborative Strategies for Sustainable Economic Growth

Regional market integration has emerged as one of the most influential factors shaping the competitiveness of MSMEs in contemporary economies. Economic integration initiatives seek to eliminate barriers to trade, facilitate investment flows, and promote economic cooperation among participating countries. For border areas, regional integration creates significant opportunities because these regions function as gateways connecting national economies with neighboring markets. MSMEs operating in border regions are therefore strategically positioned to benefit from cross-border trade, investment partnerships, and regional value chain participation. However, the realization of these opportunities depends on the ability of businesses to develop competitive capabilities and adapt to increasingly complex market environments (Asian Development Bank, 2020).

One of the primary benefits of regional market integration is expanded market access. Through reduced trade barriers and simplified customs procedures, MSMEs gain opportunities to reach consumers beyond domestic markets. Access to larger markets allows businesses to increase production volumes, diversify customer bases, and achieve economies of scale. Such advantages contribute directly to business growth and competitiveness. According to Baldwin (2016), economic integration enhances market efficiency by facilitating the movement of goods, services, capital, and knowledge across national boundaries. For MSMEs in border regions, these developments create opportunities to transform local enterprises into regional economic actors capable of competing in broader markets.

Participation in regional value chains is another important advantage of market integration. Regional value chains involve the distribution of production activities across multiple locations, enabling firms to specialize in specific stages of production. MSMEs can benefit by supplying goods, services, or intermediate products to larger firms operating within regional networks. Participation in these value chains enhances productivity, promotes technology transfer, and improves business capabilities. Research by Gereffi and Fernandez-Stark (2016) indicates that integration into value chains supports learning processes and innovation development among small enterprises. Consequently, regional integration can accelerate economic upgrading and strengthen the competitiveness of MSMEs in border areas.

Innovation and knowledge exchange are also facilitated by regional economic integration. Increased interaction among businesses, institutions, and markets creates opportunities for the diffusion of knowledge, technologies, and best practices. Cross-border collaboration enables MSMEs to learn from successful business models and adopt innovative approaches to production, marketing, and management. Knowledge-sharing networks contribute to the development of entrepreneurial capabilities and support continuous

improvement efforts. As emphasized by Audretsch and Belitski (2021), innovation ecosystems thrive when organizations engage in collaborative relationships that encourage learning and experimentation. Therefore, regional integration not only expands market opportunities but also strengthens innovation capacity among MSMEs.

Despite these benefits, regional integration also intensifies competition. The removal of trade barriers allows foreign firms to enter domestic markets more easily, increasing competitive pressures on local enterprises. MSMEs that lack sufficient technological capabilities, product quality standards, or managerial expertise may struggle to compete effectively. Consequently, strengthening competitiveness requires continuous investments in human capital development, quality improvement, and innovation. Entrepreneurs must develop strategic capabilities that enable them to differentiate their products and respond to evolving customer preferences. Studies suggest that competitiveness in integrated markets depends heavily on firms' ability to combine innovation, quality, and customer-oriented strategies (Porter & Kramer, 2019).

Collaborative governance plays a critical role in maximizing the benefits of regional integration. Effective coordination among governments, private-sector organizations, financial institutions, and local communities is essential for creating supportive business environments. Governments can facilitate trade by improving transportation infrastructure, simplifying regulatory procedures, and providing business support services. Financial institutions can enhance access to capital, while educational institutions can contribute through training and research initiatives. Such multi-stakeholder collaboration strengthens institutional capacity and promotes inclusive economic development. According to Rodríguez-Pose and Hardy (2022), regional development outcomes are significantly influenced by the quality of governance and the effectiveness of institutional cooperation.

Infrastructure development remains another essential component of competitiveness in border areas. Efficient transportation systems, logistics facilities, communication networks, and energy infrastructure facilitate trade activities and reduce business costs. Poor infrastructure often limits the ability of MSMEs to participate in regional markets despite the existence of integration agreements. Therefore, public investment in infrastructure development is necessary to support business expansion and economic connectivity. Enhanced infrastructure improves access to markets, strengthens supply chains, and attracts private investment, thereby contributing to regional economic growth (World Bank, 2023).

Sustainability considerations are also increasingly important in regional competitiveness strategies. Consumers and investors are placing greater emphasis on environmental responsibility, social inclusion, and ethical business practices. MSMEs that adopt sustainable production methods and responsible business practices may gain competitive advantages in regional markets. Sustainability-oriented innovation can improve resource efficiency, reduce environmental impacts, and enhance brand reputation. Research by Bocken and Short (2021) highlights that sustainable business models contribute to long-term competitiveness while supporting broader development objectives. Therefore,

sustainability should be integrated into competitiveness strategies aimed at strengthening MSMEs in border regions.

In conclusion, regional market integration offers substantial opportunities for MSMEs to expand markets, participate in regional value chains, enhance innovation capabilities, and contribute to economic growth. However, increased competition requires businesses to continuously improve their capabilities and adapt to changing market conditions. Collaborative governance, infrastructure development, innovation support, and sustainability-oriented strategies are critical components of successful competitiveness enhancement efforts. By leveraging the opportunities created by regional integration while addressing associated challenges, MSMEs in border areas can become powerful drivers of inclusive and sustainable economic development.

CONCLUSION

The competitiveness of MSMEs in border areas plays a crucial role in accelerating regional economic growth, particularly in the context of the digital era and increasing regional market integration. The findings of this literature review indicate that digital transformation serves as a key driver for enhancing MSME competitiveness by expanding market access, improving operational efficiency, fostering innovation, and strengthening business resilience. Simultaneously, regional market integration creates opportunities for MSMEs to participate in wider markets and regional value chains, although it also intensifies competition and requires higher standards of productivity, quality, and innovation. To address these challenges, comprehensive strategies involving digital capacity building, access to finance, infrastructure development, innovation support, and multi-stakeholder collaboration are essential. Government institutions, private sectors, financial organizations, and educational institutions must work together to create an enabling ecosystem that supports MSME growth and sustainability. Ultimately, strengthening MSME competitiveness through digitalization and regional integration not only enhances business performance but also contributes to inclusive, sustainable, and long-term economic development in border regions..

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