



Start-up and Financial Technology

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PARTNERSHIP BETWEEN FINTECH START-UPS AND DIGITAL PAYMENTS FOR SMES IN ASEAN

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ABSTRACT

Objective: This research aims to reveal the dynamics of collaboration between fintech start-ups and MSMEs in ASEAN, identifying the benefits and challenges faced in implementing fintech solutions in the MSME sector.

Research Design & Methods: This research uses a qualitative method with a systematic literature review approach to analyze the collaboration between fintech start-ups and MSMEs in ASEAN. More than fifty articles, reports, and case studies from 2020 to 2024 were reviewed to explore the role of fintech in improving financial inclusion and MSME growth, particularly in six major ASEAN countries. Findings are categorized based on digital payment innovation, financial inclusion impact, and fintech's contribution to MSME development.

Findings: The research found that collaboration between fintech start-ups and MSMEs in ASEAN improves financial inclusion, accelerates digitalization, and supports MSME business growth. Innovations such as digital payment systems and P2P financing facilitate MSMEs' access to financial services and working capital and strengthen competitiveness in six major ASEAN countries.

Implications & Recommendations: This research shows the importance of collaboration between fintech start-ups and MSMEs to improve financial inclusion in ASEAN. It is recommended that governments and financial institutions support these partnerships through supportive policies, as well as improving financial literacy for MSMEs. Fintech start-ups are also expected to continue innovating to meet the local needs of MSMEs.

Contribution & Value Added: This research provides new insights into the role of fintech in supporting MSME growth in ASEAN. Its contributions include a deeper understanding of fintech's impact on financial inclusion and opening up further research opportunities regarding its influence on competitiveness and job creation in the region.

Keywords: Fintech, Financial Inclusion, Regulation, MSME, ASEAN.

JEL codes: G21, L26, O33

Article type: research paper

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a vital role in the economies of ASEAN countries, contributing significantly to GDP and employment. However, MSMEs often face challenges related to access to finance, operational efficiency, and customer engagement, which limits their growth potential. This is where fintech and digital payment solutions come into play,

especially in ASEAN economies undergoing rapid digital transformation. Fintech (financial technology) has grown rapidly in Southeast Asia, making a significant impact on financial inclusion, particularly through platform-based lending services (P2P lending). With more than 660 million inhabitants, the ASEAN region faces major challenges in achieving financial inclusion, with a large proportion of people in several countries (PR Newswire, 2023).

In recent years, collaboration between fintech start-ups and MSMEs in ASEAN has increased, facilitating more inclusive access to finance, speeding up transaction processes, and providing more secure and user-friendly services. Financial technologies such as peer-to-peer (P2P) lending, digital wallets, and e-payment platforms have helped MSMEs overcome traditional constraints in terms of access to capital and markets (Trianto et al., 2023). In addition, this solution also enables MSMEs to improve operational efficiency and better respond to the needs of increasingly digitized consumers. Such as Indonesia, the Philippines, and Vietnam, are still unreached by formal financial services (Tritto et al., 2020). However, fintech, such as P2P lending, offers a solution to this problem by enabling communities and MSMEs to gain access to financing that was previously out of reach for traditional banks. Countries such as Indonesia and Thailand have shown great progress in adopting fintech P2P lending, supporting the growth of the region's micro and small economy sector (Benlemlih & Girerd-Potin, 2017). As the region's financial center, Singapore has also introduced policies that support the development of fintech, including regulations that facilitate P2P lending services through regulatory sandboxes and blockchain technology (Hussain, 2023).

However, while this collaboration offers great potential, the fintech sector in ASEAN faces serious challenges. The sharp decline in fintech funding during the first nine months of 2023 reflects a broader global trend, with fintech investment in the six largest ASEAN countries declining by around 70% compared to the same period in 2022 (Taiyabi et al., 2023). This decline was due to investor caution after a large funding surge post-pandemic. The number of deals also more than halved, while the average deal value fell from US\$23.3 million to US\$13.5 million, reflecting the challenges in attracting investment for fintech innovation in the region. However, countries such as Singapore and Indonesia continue to lead the way in ASEAN fintech funding, with the two countries accounting for more than 86% of the sector's total funding. Despite the decline in funding, some countries, such as Vietnam and Malaysia, still showed a modest increase in the number of fintech transactions during the third quarter of 2023, indicating continued growth potential in these markets. Amidst the uncertain economic outlook, new fintech companies established in ASEAN declined dramatically, with only 95 new fintech companies emerging this year, down more than 75% compared to the previous year (Taiyabi et al., 2023). However, investors remain optimistic that advances in artificial intelligence (AI) technology will spur innovation in the fintech sector and present new opportunities to drive MSME growth in the future.

This study aims to reveal the dynamics of collaboration between fintech start-ups and MSMEs in ASEAN, identifying the benefits as well as the challenges faced in implementing fintech solutions in the MSME sector. The study also illustrates how innovations in financial technology can be an important transformation tool in improving the competitiveness of MSMEs in ASEAN in the fast-changing economic landscape.

LITERATURE REVIEW

The Role of MSMEs in the ASEAN Economy

MSMEs are the backbone of the economy in most ASEAN countries, accounting for around 90% of total enterprises. However, they face various challenges related to access to markets, capital, and technology, which hinder their optimal development (OECD, 2021). Micro, Small, and Medium Enterprises (MSMEs) play an important role in ASEAN economies, representing around 97-99% of total enterprises and contributing 60-80% to total employment in ASEAN countries. This large contribution of MSMEs is important for achieving greater regional economic integration among ASEAN countries. However, despite their significant role, MSMEs often face various constraints that limit their participation in international trade, both as importers and exporters.

The constraints MSMEs face in ASEAN include access to finance, technology adoption, and complex regulations. Despite the country's booming economy in Singapore, MSMEs still face difficulties in applying for government assistance schemes that often focus more on high-tech start-ups in knowledge-based sectors. This suggests that while government support programs exist, they are often less suited to the specific needs of traditional MSMEs that may not have the capacity to take advantage of the opportunities offered (Chiang, 2004). Overall, MSMEs in ASEAN have great potential to advance regional economic integration, innovation, and job creation. However, for this potential to be maximized, ASEAN countries must address specific challenges MSMEs face, including limited access to finance, difficulties in technology adoption, and regulatory barriers. Support through more targeted policies and assistance programs tailored to the needs of different types of MSMEs in the region is key to fostering sustainable economic growth and integration in the ASEAN region.

Fintech and Digital Payment Solutions

Fintech comes from the term financial technology. The National Digital Research Center (NDRC) in Dublin, Ireland, defines fintech as “innovation in financial services” or “innovation in fintech financial services,” which is an innovation in the financial sector that gets a touch of modern technology. Financial transactions through fintech include payments, investments, money lending, transfers, financial planning, and comparison of financial products. The financial technology (fintech) industry is one method of financial services that is gaining popularity in today's digital era. Digital payment is one of Indonesia's most developed sectors of the FinTech industry. In this sector, the government and the public expect the most to drive an increase in the number of people with access to financial services. In ASEAN, fintech has introduced various digital payment solutions such as e-wallet apps, QR code payment systems, and P2P lending platforms, which enable easier and faster financial transactions (Young et al., 2022). The introduction of digital currencies has significantly expanded the scope of financial transactions.

Cryptocurrencies such as Bitcoin and Ethereum have created decentralized financial ecosystems that bypass traditional banking. Stablecoins like Tether provide more stable digital assets by pegging their value to traditional currencies. Central Bank Digital Currencies (CBDCs), such as the Digital Yuan and Digital Euro, are also being developed by governments to capitalize on the benefits of digital currencies while maintaining regulatory control (Lerong, 2024). This innovation enables faster and more seamless payments, making transactions more accessible, especially for individuals and businesses in regions with limited access to traditional banking systems. In addition, mobile payment solutions such as Apple Pay, Alipay, and WeChat Pay also utilize NFC (Near Field Communication) and QR codes to provide seamless contactless payments. These systems increase the speed and convenience of transactions, especially in the retail and e-commerce sectors, while contributing to the global trend towards a cashless society (Lerong, 2024).

Fintech and MSME Collaboration

Collaboration between fintech start-ups and MSMEs is gaining prominence as a solution to address small businesses' financial challenges. Fintech offers tools that can improve the operational efficiency of MSMEs, from cash management and cross-border payments to easily accessible microfinance (Pangestu and Harmonis, 2024). Collaboration between fintech start-ups and MSMEs in ASEAN has been instrumental in improving operational efficiency, cross-border payments, and access to microfinance. Modern financial technology offered by fintech enables MSMEs to access faster and more secure financial services, especially for cross-border transactions, which accelerates payments and promotes economic integration of the ASEAN region (Mohamed, 2020). In the e-commerce sector, this collaboration supports the growth of MSMEs by providing efficient cross-border payment solutions, as seen in the cooperation between China and ASEAN countries (Ji et al., 2023). Moreover, in countries such as Indonesia and Malaysia, adopting digital payments through e-wallets and ATM debit has helped MSMEs increase productivity. However, there are still challenges in implementing QR code-based technology (Trianto et al., 2023). However, fintech also faces the challenge of varying regulations in each country, which can slow the adoption of such

services. Still, fintech plays a key role in microfinance, helping MSMEs overcome limited access to capital (Imam et al., 2022).

METHODS

This research uses a qualitative method with a systematic literature review approach to explore the collaboration between fintech start-ups and MSMEs in the ASEAN region. More than fifty research articles were downloaded from various relevant sources, such as academic journals, reports from international financial institutions, fintech market reports, and case studies published between 2020 and 2024 using the keyword fintech start-ups. These sources were selected because they provide important insights into the role of fintech in improving financial inclusion and MSME growth in ASEAN countries, especially the six major ASEAN countries (Indonesia, Malaysia, Vietnam, Philippines, Thailand, and Singapore). The first step in this research is literature identification and selection, where articles, reports, and case studies related to fintech and MSME collaboration in ASEAN will be collected. After data collection, the findings will be categorized based on key themes from the literature, such as innovation in digital payment systems, the impact of financial inclusion, and the contribution of fintech to MSME business growth.

Table 1. Selected Empirical and working papers

No	Authors	Finding	Research Approach
1.	(Karim et al., 2022)	The paper explores how FinTech solutions enhance access to finance for Micro, Small, and Medium Enterprises (MSMEs) in ASEAN countries, fostering collaboration that improves financial inclusion, operational efficiency, and overall growth potential for these regional businesses.	Quantitative method
2.	(Majid and Mawaddah, 2022)	There is a need for collaboration between regulators and industry players to improve financial literacy and FinTech integration, which can benefit MSMEs across ASEAN.	Quantitative method with primary data analysis.
3.	(Mardini et al., 2022)	The potential of fintech to integrate MSME finance in Bandung, highlighting the need for inclusive solutions to address capital access issues, is relevant to broader ASEAN collaborative efforts to improve MSME financial transactions through technology.	Bivariate analysis
4.	(Candraningrat et al., 2023)	Collaboration between banks, FinTech companies, and regulators is needed to improve access to financial services for MSMEs in ASEAN, promote financial inclusion, and facilitate seamless cross-border transactions within a unified economic community.	Literature review
5.	(Mohamed, 2020)	Collaboration between fintech and Islamic banking in Indonesia can improve financial services, especially by sharing product marketing, lending, and transaction services.	Literature review, analysis with NVivo
6.	(Imam et al., 2022)	Fintech presents challenges and opportunities in ASEAN, especially with higher adoption in developed countries like Singapore but lower in developing countries like Laos and Cambodia.	Data analysis
7.	(Jose, 2020)	Collaboration between government, fintech, and MSMEs is needed to create a fintech framework that can expand financial inclusion in ASEAN.	Policy analysis
8.	(Low & Wong, 2021)	The growth of fintech has had a positive impact on stock returns in Singapore and the Philippines. In contrast, the impact on Indonesia and Vietnam depends more on local regulation and investment.	Fama-French Five-Factor Model

No	Authors	Finding	Research Approach
9.	(Situmorang, 2022)	Fintech collaboration with Islamic banking and the digitalization of MSMEs in Indonesia has the potential to expand access to financial services with the challenges of digital literacy and technology adoption.	Survey, Case study
10.	(Alexandri et al., 2023)	Four major fintech innovations in ASEAN, advisory platforms, blockchain, P2P lending, and mobile banking, play a major role in investment decisions and cost efficiency in the banking sector.	Systematic mapping
11.	(Rahman, 2020)	Collaboration on e-commerce liberalization in ASEAN-6 (Indonesia, Malaysia, Singapore, Philippines, Thailand, Vietnam) has seen positive developments, although challenges such as data security and infrastructure gaps remain to be overcome.	Panel data analysis
12.	(Imantoro & Ali, 2020)	The economy is growing rapidly in ASEAN-6. Fintech enables faster economic growth through opportunities outside metropolitan areas and the disruptive potential of technology in the financial sector.	Descriptive comparative study
13.	(Ruhland and Wiese, 2023)	Fintech collaboration with traditional banks in ASEAN-5 (Indonesia, Malaysia, Thailand, Singapore, Philippines) helps improve customer satisfaction and business model innovation by utilizing digital financial services.	Case study
14.	(Hao, 2020)	Vietnam's fintech ecosystem is growing rapidly with government support and the younger generation's adoption of technology, although fintech start-ups face challenges in infrastructure and regulation.	Descriptive analysis, case study
15.	(Ngo and Nguyen, 2022)	Consumers in Vietnam's intention to adopt fintech services is driven by their latent needs and the perceived benefits and ease of using such services.	Probit regression
16.	(Mohamad et al., 2022)	Co-creation strategies between MSMEs and service providers, facilitated by interactive digital platforms, accelerate the internationalization process of MSMEs. Malaysia. Collaboration between MSMEs and service providers based on interactive digital platforms accelerates MSME internationalization, with the service experience having more impact on firm performance.	Case study, Thematic analysis
17.	(Latif, 2020)	MSMEs in ASEAN countries face major challenges during the pandemic, but the role of government and digital technology can help MSMEs survive.	Literature review
18.	(F. S. Rahayu et al., 2023)	This paper highlights the limited influence of Fintech on the financial behavior of MSMEs in Indonesia due to low awareness. While not specifically addressing ASEAN, promoting Fintech awareness and financial literacy is critical to improving MSME collaboration and financial practices across the region.	Financial literacy, attitude, and Fintech analysis. A random sampling of 1.1 million DKI Jakarta MSME stakeholders
19.	(Darma et al., 2020)	The role of FinTech in supporting MSMEs in Indonesia by highlighting the ease of getting loans and making transactions.	Descriptive and qualitative research methods
20.	(Rahadian and Thamrin, 2023)	This paper focuses on MSMEs in Indonesia that use fintech loans for business financing, highlighting the potential of fintech to improve MSME productivity and effectiveness.	Quantitative methods for cause-and-effect relationships and hypothesis testing
21.	(Wang et al., 2024)	The importance of creating an enabling environment for fintech innovation, which can indirectly benefit MSMEs by improving access to financial services and resources	Descriptive and qualitative research methods
22.	(Hamdan & Anshari, 2020)	FinTech initiatives in ASEAN can significantly support Micro, Small, and Medium Enterprises (MSMEs) by improving access to financial services, promoting	Overview, Examination

No	Authors	Finding	Research Approach
		economic growth, and fostering financial inclusion through innovative technologies and supportive government regulations.	
23.	(S. K. Rahayu et al., 2023)	Fintech landscape in Indonesia and its impact on MSMEs, highlighting opportunities for collaboration through microfinance institutions and cooperatives to increase financial inclusion, which may be relevant to similar initiatives across ASEAN countries to address financing gaps.	Qualitative analysis strategy verification through inductive analysis.

RESULT

The development of financial technology (fintech) in the ASEAN region has had a significant impact on financial inclusion, especially for Micro, Small, and Medium Enterprises (MSMEs). Fintech acts as an enabler that facilitates access to financing for MSMEs more easily, quickly, and transparently compared to conventional financial services. Innovations such as peer-to-peer (P2P) lending, digital payments, and mobile banking have enabled MSMEs previously constrained by traditional banking procedures to access the working capital they need. This not only improves the productivity and operational efficiency of MSMEs but also expands their market reach in the digital economy. Collaboration between fintechs, regulators, and the traditional banking sector also plays an important role in supporting the adoption of this financial technology. With supportive regulations and regulatory sandboxes in place in several ASEAN countries, fintech innovations can thrive safely, maintaining transaction security and transparency. However, challenges such as low financial and digital literacy, as well as concerns about data security and taxes, remain as barriers to wider adoption of fintech among MSMEs.

However, the positive impact of fintech on MSME growth cannot be ignored. Adopting digital payment technology has increased MSME revenue and reduced financial risk through automated record-keeping and more efficient cash flow management. With continued cross-sector collaboration and government support, fintech has great potential to further strengthen financial inclusion in ASEAN and advance the region's digital economy. Further details on the role of fintech in improving financial access for MSMEs in ASEAN can be seen in the table 2.

Table 2. The role of fintech in improving access to finance for MSMEs in ASEAN

Aspects	Description	The State and Fintech
Fintech's Role in MSME Financial Inclusion	Fintech helps MSMEs access financing more easily, quickly, and transparently than traditional banking services. Technologies such as P2P lending, digital payments, and mobile banking facilitate MSMEs that find it difficult to access formal financing.	Indonesia (Modalku, Investree), Philippines (First Circle)
Fintech Collaboration with MSMEs	Fintech offers working capital with faster processes and simpler requirements. This helps MSMEs improve operational efficiency and competitiveness in the global market.	Malaysia (GrabPay, Boost), Vietnam (Momo, ZaloPay)
Regulatory Support in the Fintech Ecosystem	Regulatory and fintech collaboration creates a favorable environment for innovation while maintaining safety and transparency. Several countries provide initiatives to support fintech innovation through regulations and financing schemes to facilitate the testing of fintech business models in a controlled environment.	Singapura (MAS, FSTI), Indonesia (OJK Regulatory Sandbox)
Impact of Collaboration on MSME Productivity	The adoption of digital payment technology by MSMEs simplifies transactions, increases transparency, and manages cash flow in real-time, ultimately improving productivity and reducing financial management risks.	Malaysia (GrabPay, Boost), Vietnam (Momo, ZaloPay)

Aspects	Description	The State and Fintech
Digital Economy Growth	The digital economy in ASEAN surpasses US\$100 billion in revenue. Fintech facilitates MSMEs to increase productivity by integrating them into the broader digital ecosystem, including cross-border transactions that expand MSMEs' market reach.	Singapura, Indonesia (E-commerce dan digital financial services)
Challenges in Financial and Digital Literacy	Financial and digital literacy challenges still hamper fintech adoption among MSMEs. Factors such as tax uncertainty, data security, and lack of understanding of financial technology are obstacles in accelerating the digitalization process.	Vietnam, Malaysia
Cross-Sector Collaboration	Support from regulators and cross-sector collaboration with traditional banks and governments are important to driving fintech adoption. Regulators shape policies that support innovation and maintain security standards in financial transactions.	Singapura (MAS), Indonesia (OJK Regulatory Sandbox)
Operational Efficiency and Cost Reduction	Digital payment technology reduces the need for cash and manual systems, which in turn reduces operational costs and improves MSME cash flow management. Automated recording processes reduce the risk of errors and increase MSMEs' focus on business development.	Malaysia (GrabPay), Vietnam (Momo)
Positive Impact on MSME Growth	Fintech and digital payment technology have a positive impact on increasing MSME income by up to 20%, as well as helping to reduce financial risk with automated record keeping and easy access to digital financial services.	Thailand (Thailand 4.0), Malaysia (Innovation Technology)

DISCUSSION

Increasing Financial Inclusion and Access to Financing: Fintech as an Enabler for MSMEs

The role of fintech as an enabler in improving financial inclusion for Micro, Small, and Medium Enterprises (MSMEs) in ASEAN is increasingly undeniable. Collaboration between fintech start-ups and MSMEs creates an ecosystem that allows MSMEs to gain access to financing that is easier, faster, and more transparent than traditional banking services. In the ASEAN region, many MSMEs experience difficulties in accessing formal financing due to a lack of credit history, geographical barriers, or limited financial literacy. Fintech is here to address these issues through innovative technologies such as peer-to-peer lending (P2P lending), digital payments, and mobile banking. This collaboration is evident in the success of several fintechs in Indonesia and the Philippines, such as Modalku, Investree, and First Circle, which play an important role in providing financing solutions for MSMEs. They offer working capital with a faster process and simpler requirements than traditional banking, which often has a long bureaucracy. In ASEAN, fintech is not just a service provider but also a strategic partner for MSMEs to improve their operational efficiency and competitiveness in an increasingly globalized market.

The importance of this collaboration can be seen in the Asian Development Bank (ADB) report, which shows that around 70% of MSMEs in ASEAN still do not have access to formal financing. The involvement of fintech in this collaboration helps narrow the gap, thus creating more growth opportunities for MSMEs. In addition, the report also highlights how fintech technology accelerates the financial transaction process and improves cash flow for MSMEs, ultimately driving productivity and business growth. A clear example of this collaboration is the implementation of digital payment solutions in the MSME sector in Malaysia and Vietnam, where mobile banking technology has helped accelerate business digitization. In these countries, fintech collaboration with MSME players also facilitates cross-border transactions, which in turn expands their market reach. This success is supported by government initiatives to encourage financial literacy and digital technology adoption, strengthening MSMEs' position as a key driver of economic growth in ASEAN.

In addition, collaboration between fintechs and regulators in ASEAN has also been instrumental in creating an enabling environment for innovation. For example, in Indonesia, collaboration between Islamic fintechs and MSMEs has helped expand financial inclusion among Muslim entrepreneurs, usually excluded from conventional banking services. This model can be a reference for other ASEAN countries in creating flexible yet protective regulations that encourage fintech growth while maintaining economic stability. Overall, the collaboration between fintech start-ups and MSMEs in ASEAN has proven to be key in advancing financial inclusion. Fintech not only provides greater access to finance but also opens up new opportunities for MSMEs to innovate, grow, and contribute more to economic growth in the region. With the continued development of technology and partnerships between various sectors, MSMEs in ASEAN are increasingly empowered to reach their full potential in the digital economy.

Operational Efficiency and Digital Economy Growth

Collaboration between fintech and digital payment solutions is important in improving the operational efficiency of MSMEs in ASEAN (Mohamed, 2020). Through the adoption of digital payment technology, MSMEs can now simplify the transaction process, increase transparency, and manage cash flow in real-time. Transactions usually done manually can now be processed more quickly, securely, and efficiently, allowing MSMEs to reduce operational costs and improve their financial systems (Trianto et al., 2023). The automated process of recording transactions also helps MSMEs reduce the risk of errors in financial management so they can focus on business development and growth strategies (Hervé B., 2022; Majumdar et al., 2020). For example, in Malaysia, platforms like GrabPay and Boost have helped many MSMEs to accept cashless payments more easily and quickly. This collaboration allows MSMEs to increase productivity by eliminating the need for cash or manual payment systems. This directly affects their cash flow management, where MSMEs can see real-time revenue streams and make it easier for them to do short and long-term financial planning (Akmar, 2020). In Vietnam, platforms such as Momo and ZaloPay have accelerated digital transformation among MSMEs, giving them access to a wider market and increasing their competitiveness in the digital economy. The use of these technologies not only provides convenience but also encourages the integration of MSMEs into the larger digital ecosystem (Hervé B., 2022).

The digital economy in Southeast Asia surpassed US\$100 billion in revenue, driven by sectors such as e-commerce, online travel, and digital financial services. In general, e-commerce is experiencing significant growth, with GMV (Gross Merchandise Value) increasing by 22% year-on-year and predicted to continue increasing until 2025. In addition, digital payments now account for more than half of all transactions in the region, highlighting the importance of digital financial services (DFS). Countries such as Singapore and Indonesia are leaders in digital payments and payment methods, which have become key drivers of the booming digital economy. Fintech startups in the region have made progress. Fintech startups in the region have been instrumental in offering alternative financing solutions, especially for underserved markets, helping small businesses expand more efficiently (Bain & Company, 2023).

The benefits of this collaboration come from various studies that show that the adoption of digital payment solutions can increase MSME revenues by up to 20%. This increase is due to the ease of transactions as well as access to a wider market, both locally and internationally. In addition, digitalization also allows MSMEs to more easily monitor and record their transactions, which is crucial in ensuring the company's financial health. With automated recording, the risk of manual errors in financial management is drastically reduced, providing high efficiency in financial management. In addition to the internal benefits, digital transformation is also driving the growth of the digital economy in ASEAN as a whole. The booming digital economy in the region, including outside metropolitan areas, means that MSMEs now have the opportunity to innovate and expand their businesses without relying on the more limited traditional banking infrastructure. With the support of fintech, MSMEs are becoming an important part of the growing digital economy ecosystem in the ASEAN region, driving more inclusive and sustainable economic growth.

Cross-Sector Collaboration and Regulatory Support

Cross-sector collaboration and regulatory support are essential in creating a fintech ecosystem that is conducive to the development of MSMEs in ASEAN. The role of governments and regulators is crucial in formulating policies that support innovation while maintaining security and transparency in financial transactions. For example, in Singapore, the Monetary Authority of Singapore (MAS) has implemented various regulatory initiatives to encourage the adoption of new technologies in the fintech sector. One of the leading measures is the Financial Sector Technology and Innovation Scheme (FSTI), which provides up to S\$150 million to support fintech innovation and facilitate collaboration between fintechs and traditional banks. The initiative aims not only to introduce new solutions such as AI and Web 3.0 in the payment system but also to ensure that such technologies are adopted safely and in compliance with applicable security standards. With support from regulators, fintech innovations can continue to thrive without compromising the security or stability of the financial system (Taiyabi et al., 2023).

In Indonesia, the Financial Services Authority (OJK) implemented a Regulatory Sandbox program for fintechs. Through this program, fintechs can test and refine their business models in a controlled environment, under close supervision from the regulator. This program not only gives fintechs room to grow but also ensures that any innovations produced align with set standards in terms of technology reliability and user data protection. This initiative allows fintech entrepreneurs to identify and overcome challenges early on, reducing the risk of failure when introduced to the wider public. According to a report from the International Finance Corporation (IFC), proper regulation is critical to creating safe and trustworthy fintech, which in turn increases public confidence in financial technology. With cross-sector collaboration between fintechs, financial institutions, and governments, these adaptive and innovation-supportive regulations can accelerate the process of financial inclusion in ASEAN, address the financing gap for MSMEs, and provide a boost to the region's digital economic growth (Taiyabi et al., 2023). This success shows how important government support is in creating a safe and adequate environment for fintech growth, which in turn has a positive impact on the development of the MSME sector.

Financial and Digital Literacy Challenges

Several studies show that MSMEs in ASEAN face various challenges that hinder their technology adoption and business development. In Vietnam, for example, a survey of 2,575 MSMEs revealed that their biggest challenges are fierce competition from domestic and foreign businesses, difficulties entering consumer markets, as well as limited capital and knowledge of relevant laws, which affect their ability to innovate and grow (Tran, 2015). This suggests that despite the huge market potential, many MSMEs are hampered by external and internal factors that limit their access to new opportunities, including those offered by fintech. In Malaysia, while e-commerce offers significant potential, fintech adoption among MSMEs is hampered by concerns about data privacy, security issues, and uncertainty regarding taxable income, as well as a lack of clear regulation (Ismail and Masud, 2019). These concerns often create a fear of new technology, which in turn slows down the digitization process in the MSME sector.

Meanwhile, while Singapore has developed a more mature fintech ecosystem, countries with more recent fintech developments, such as Brunei Darussalam, Cambodia, Myanmar, and Laos, face lower adoption (Huong et al., 2021). This disparity shows that while the fintech ecosystem is thriving in some ASEAN countries, there are still gaps in the ability of different countries to adopt and integrate this new technology. Indonesia, listed as the fastest-growing digital economy in ASEAN, also faces significant challenges in optimizing fintech for financial inclusion, including issues related to financial literacy, digital literacy, and technology adoption by MSMEs (Situmorang, 2022). This shows that despite progress in the sector, many MSMEs are yet to fully utilize the potential of fintech to accelerate their growth and efficiency. A sustained and focused financial education program is crucial to overcome these barriers. A study by Morgan (2022) highlights that fintech has great potential to improve financial inclusion, but without sufficient understanding, MSMEs will find it difficult to utilize this technology optimally. Financial education initiatives initiated by

fintech companies and governments in various ASEAN countries are important in equipping MSME players with the necessary skills to navigate digital financial services. Research by [Utami and Sitanggang \(2021\)](#) shows that fintech adoption significantly positively affects MSME performance in Indonesia and that financial literacy strengthens the relationship between fintech adoption and MSME performance. This proves that a better understanding of digital finance will encourage wider adoption and improve MSME performance.

However, not only is technology adoption a challenge, but also barriers related to differences between countries in technology infrastructure readiness and nationalistic attitudes that hinder regional collaboration ([Miranda et al., 2021](#)). This underscores the importance of cross-country and sectoral cooperation in strengthening fintech adoption in the ASEAN region. On the other hand, the World Bank emphasizes that improving financial and digital literacy is crucial to ensure successful fintech adoption among MSMEs. Effective education programs can help MSMEs not only to access digital financial services but also to make the most of them, which in turn can accelerate the growth of the digital economy in ASEAN ([Ivor, 2023](#)).

Positive Impact on MSME Performance and Growth

The adoption of fintech technology and digital payment solutions has proven to have a very positive impact on the performance of micro, small, and medium enterprises (MSMEs) in various sectors, including the ASEAN region. This performance improvement occurs through three main aspects: financial impact, operational efficiency, and better customer engagement. Each of these aspects plays an important role in boosting the performance and competitiveness of MSMEs, which in turn drives broader economic growth.

Positive Financial Impact

Innovation in financial technology has been a key factor in driving the transformation of MSMEs in the ASEAN region. Fintech, such as advisory platforms, blockchain, peer-to-peer lending, and mobile banking, have brought significant changes to the MSME sector. These technologies enable better investment decisions, improve operational efficiency, and expand access to faster and more transparent financial services. This has a direct impact on improving the competitiveness of MSMEs in an increasingly competitive market ([Alexandri et al., 2023](#)). In Thailand, the Thailand 4.0 policy emphasizes the importance of collaboration between universities, government, and the private sector in improving the competitiveness of MSMEs through technology transfer. The program assists MSMEs in digital technology adoption and product innovation, which are key to long-term sustainability and competitiveness in the global market ([Khongmalai & Distanont, 2022](#)). Cross-sector collaboration is essential to accelerate technology adoption among MSMEs so that they can gain access to innovation, which would be difficult to achieve without strong synergy between stakeholders.

Technological innovation capability has a significant impact on the performance of MSMEs in Malaysia. Technology adoption not only serves as a catalyst for increased competitiveness but also as a mechanism to sustain growth in an increasingly competitive market. These innovations help MSMEs improve their operational efficiency and expand their market reach ([Jalil et al., 2021](#)). Adopting information technology and digital innovation enables MSMEs in ASEAN to overcome export barriers and gain a competitive edge in the global market. These technologies give MSMEs the ability to compete on the international stage by reducing logistical constraints and accelerating their business processes ([Haini, 2021](#)). Technological innovation allows MSMEs in ASEAN, which previously struggled to compete in the global market, to utilize information technology to expand their market.

Digital financial technology also plays an important role in driving MSME business sustainability in the digital era. Technology-based innovations help MSMEs maintain their competitiveness by improving business process efficiency and facilitating their integration into the global digital economy ecosystem ([Machmud et al., 2022](#)). Adopting digital financial technology

enables MSMEs to increase their productivity and competitiveness, allowing them to survive in an increasingly competitive and changing market. Overall, innovation in financial technology plays a crucial role in improving the competitiveness of MSMEs in ASEAN. Through cross-sector collaboration, technology adoption, and digitization of business processes, MSMEs in the region can overcome global economic challenges and improve their competitive position in the international market. Fintech innovation not only supports long-term sustainability but also strengthens the competitiveness of MSMEs amidst a rapidly changing economic landscape.

Operational Efficiency

Digital technology has brought significant changes to MSMEs, especially in overcoming limited resources that often become obstacles in managing their operations. Many MSMEs operate with limited budgets and limited manpower, thus requiring solutions that can optimize operations in a more efficient manner. [Dimoso & Utonga \(2024\)](#) mentioned that fintech adoption helps MSMEs reduce administrative burden, improve operational efficiency, and speed up the transaction process. With digital payment solutions, MSMEs can process transactions more quickly and securely without relying on cash payment methods that are prone to errors and theft. This not only reduces the risk of human error but also increases the speed and accuracy of recording transactions.

Furthermore, the use of digital technology also allows MSMEs to save time and operational costs. Manual processes that previously took a lot of time, such as manually recording transactions, can be replaced with an automated and integrated system. Thus, MSMEs can allocate limited resources to more productive matters like product development or marketing. Studies conducted by [Musyaffi \(2024\)](#) show that digital payment systems can accelerate cash flow, an important factor in maintaining business continuity and accelerating business growth. Furthermore, operational digitization also allows MSMEs to be more flexible and responsive to market needs. For example, MSMEs can more easily track inventory, manage orders, and adapt to rapidly changing market demands. Therefore, operational efficiency driven by fintech and digital technology not only improves the internal performance of MSMEs but also gives them the competitive edge needed to compete in an increasingly digitized marketplace.

Customer Involvement

Fintech solutions play an important role in improving MSMEs' customer engagement, which in turn contributes to business growth. The use of services such as SMS banking and e-wallets allows MSMEs to provide an easier, faster, and safer experience to their customers, especially in the midst of changing consumer behavior that is increasingly digital. With digital payment systems, MSMEs not only make transactions easier for customers but also increase their trust and loyalty. [Hassan \(2024\)](#) emphasized that fintech helps businesses manage customer relationships more effectively, speed up responses to requests, and provide more personalized and affordable services.

Furthermore, [Musyaffi \(2024\)](#) notes that digital payment systems create a safer and more practical cashless environment, which offers convenience not only to customers but also to business owners. Transaction security and ease of payment processing are key advantages of fintech adoption, where customers are more likely to return to make purchases because they feel safer and more comfortable. In addition, the benefits of e-wallet integration and digital payment platforms also make it easier for MSMEs to monitor and manage cash flow more transparently and efficiently, ultimately strengthening long-term relationships with customers. With the adoption of fintech, MSMEs can create a better customer experience, which not only accelerates transactions but also increases their competitiveness in an increasingly competitive market. Overall, better customer engagement, thanks to fintech, can drive loyalty, which directly contributes to the improved performance and growth of MSMEs and helps them to better compete in the global digital economy.

CONCLUSION

Based on the analysis of the role of fintech in improving financial access for MSMEs in the ASEAN region, it can be concluded that fintech has become an important solution in promoting

broader financial inclusion. Technological innovations such as P2P lending and digital payments have provided easier, faster, and more transparent access to finance for MSMEs that previously struggled to access conventional financial services. Collaboration between the government, regulators, and the fintech sector is key in creating a conducive environment for the growth of these innovations. Although challenges such as digital literacy and data security remain, the positive impacts that MSMEs have experienced, such as increased revenue and operational efficiency, show that fintech has great potential to advance the digital economy sector in ASEAN. However, this study has certain limitations, including the lack of empirical validation across different ASEAN countries and the exclusion of macroeconomic factors that might influence fintech adoption. Future research should address these gaps to provide a more holistic perspective.

The practical implications of these findings suggest that MSME players need to be more active in utilizing fintech platforms to improve access to funding and expand their business reach. For future research, it is recommended that the analysis be expanded by considering other factors such as digital literacy, cultural challenges, and the role of fintech in encouraging MSME sustainability beyond the access to finance aspect. In addition, a more in-depth empirical study of the impact of regulations in each ASEAN country on fintech development can provide a more comprehensive understanding. Furthermore, future research should explore cross-sectoral collaborations, assess the long-term effects of fintech adoption on MSME growth, and investigate the potential risks associated with digital financial services. By addressing these aspects, future studies can formulate more optimal strategies for the development of fintech and MSMEs in the region.

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