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From FinTech Adoption to Strategic Performance: A Comparative Systematic Review of SMEs in Indonesia and Malaysia

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Abstrak: Perkembangan pesat Financial Technology (FinTech) telah mentransformasi penyediaan layanan keuangan dan menciptakan peluang baru bagi usaha kecil dan menengah (UKM), khususnya di negara-negara berkembang. Penelitian ini secara sistematis mengkaji dan membandingkan dampak strategis adopsi FinTech terhadap kinerja UKM di Indonesia dan Malaysia melalui systematic literature review yang dipandu oleh PRISMA, dengan menggunakan artikel ilmiah bereputasi, laporan institusional, dan publikasi resmi yang diterbitkan pada periode 2018–2025. Analisis difokuskan pada akses keuangan, efisiensi operasional, kapabilitas inovasi, lingkungan regulasi, dan kepercayaan institusional. Hasil kajian menunjukkan bahwa adopsi FinTech meningkatkan akses pembiayaan dan efisiensi transaksi di kedua negara; namun, kedalaman dan keberlanjutan manfaat tersebut berbeda antar konteks. Di Indonesia, FinTech terutama berperan dalam mendorong inklusi keuangan dan pengelolaan likuiditas jangka pendek, sedangkan di Malaysia FinTech lebih terintegrasi dalam sistem organisasi dan keuangan, sehingga berkontribusi terhadap produktivitas berkelanjutan dan ketahanan strategis. Perbedaan ini terutama dipengaruhi oleh tingkat kematangan regulasi, dukungan institusional, dan kesiapan organisasi. Studi ini menyimpulkan bahwa adopsi FinTech saja tidak secara otomatis menjamin peningkatan kinerja UKM; nilai strategisnya sangat bergantung pada keselarasan antara adopsi teknologi, kapabilitas internal perusahaan, dan lingkungan institusional. Temuan ini memberikan wawasan komparatif bagi pembuat kebijakan dan praktisi dalam merancang strategi pengembangan UKM berbasis FinTech yang lebih efektif di negara berkembang.

Kata kunci: Financial Technology (FinTech), Usaha Kecil dan Menengah (UKM), Kinerja Strategis, Tinjauan Literatur Sistematis, Negara Berkembang.

Abstract: *The rapid expansion of Financial Technology (FinTech) has transformed financial service delivery and created new opportunities for SMEs, particularly in emerging economies. This study systematically examines and compares the strategic impacts of FinTech adoption on SME performance in Indonesia and Malaysia through a PRISMA guided systematic literature review of peer-reviewed studies, institutional reports, and official publications from 2018 to 2025. The analysis focuses on financial access, operational efficiency, innovation capability, regulatory environment, and institutional trust. The findings show that FinTech adoption enhances access to finance and improves transactional efficiency in both countries; however, the depth and sustainability of these benefits differ across contexts. In Indonesia, FinTech mainly supports financial inclusion and short-term liquidity management, while in Malaysia it is more deeply integrated into organizational and financial systems, contributing to sustained productivity and strategic resilience. These differences are largely driven by variations in regulatory maturity, institutional support, and organizational readiness. The study concludes that FinTech adoption alone does not guarantee improved SME performance, rather its strategic value depends on the alignment between technological adoption, firm-level capabilities, and institutional environments. The findings offer comparative insights for policymakers and practitioners aiming to strengthen FinTech-enabled SME development strategies in emerging economies.*

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Keywords: *Financial Technology (FinTech), Small and Medium Enterprises (SMEs), Strategic Performance, Systematic Literature Review, Emerging Economies.*

INTRODUCTION

Over the past few decades, significant changes have occurred within the world's economies as technology advanced rapidly across sectors like business management and financial services, leading to an increase in innovation known as FinTech. The progression of fintech technology now plays an indispensable role as a driving factor for advancements within the realm of finance. As FinTech innovations grow in significance, SMEs increasingly rely on these tools to secure capital, enhance competitiveness, and manage operational strategies effectively. A notable phenomenon occurs predominantly within underdeveloped regions, characterized by an ongoing difficulty in obtaining adequate banking facilities (Qi, 2023)

Countries such as Indonesia and Malaysia rely heavily on SMEs in their quest for economic development and job creation. In Indonesia, SMEs contribute to 61.1% of the country's GDP and employ 97.2% of the workforce. In Malaysia, SMEs account for 48% of total employment and make up 38.9% of the GDP (*Central Bureau of Statistics of Indonesia (BPS). (2023). Statistical Yearbook of Indonesia 2023. Badan Pusat Statistik (BPS). (n.D.)*, n.d.; *Department of Statistics Malaysia (DOSM). (2024). Small and Medium Enterprises (SMEs) Performance Report 2024. Department of Statistics Malaysia. (n.D.)*, n.d.). SMEs in the two countries still suffer from deep-rooted structural problems, particularly inadequate access to formal sources of finance, even though they are a vital force driving the economy. The development of many SMEs in the emerging Asian countries is constrained by serious funding gaps, high business costs, and operational inefficiencies of traditional bankingFirms in both countries still confront longstanding structural impediments such as lack of access to formal credit despite their significant role they play in the economic progress. In many developing nations across Asia, the expansion of small and medium-sized enterprises (SMEs) is often constrained by significant financial limitations, elevated operational expenses, and inefficiencies within traditional banking systems (Sanga & Aziakpono, 2023).

To address these challenges, a variety of FinTech innovations have been introduced and promoted. These include digital wallets, peer-to-peer lending services, and electronic payment platforms. Such technologies can facilitate quicker transactions, streamline business setup processes, and improve access to financial services for SMEs and emerging entrepreneurs (Mulyana et al., 2024). In Indonesia, the growth of FinTech has been reinforced by government initiatives aimed at advancing digital innovation and broadening financial inclusion. Policymakers have prioritized establishing a supportive ecosystem that fosters FinTech adoption in order to strengthen the competitiveness and resilience of SMEs (Nugraha et al., 2022).

By comparison, Malaysia has adopted a more systematic and well-organized strategy in advancing FinTech. Entrepreneurs' adoption of e-payment platforms and other digital financial technologies has been facilitated by a strong legal and regulatory framework (Trianto et al., 2025). Although Indonesia and Malaysia pursue similar goals related to regional growth and integration, differences in their institutional capacities, regulatory structures, and innovation ecosystems create a valuable context for analyzing how SMEs strategically gain advantages from FinTech adoption across varying national environments.

Even though FinTech has expanded rapidly throughout Southeast Asia in diverse forms, the relationship between the adoption of emerging financial technologies and the long-term performance of SMEs remains insufficiently understood, particularly in cross-country comparisons. Some studies indicate that FinTech utilization can enhance certain dimensions of firm performance, such as market expansion and operational efficiency, but these benefits tend to arise only under specific circumstances. Moreover, such outcomes may be shaped by contextual factors that differ across countries (Anita Fatmawati, 2024). The degree to which regulatory structures, organizational preparedness, and institutional backing influence these results continues to be an unresolved issue in both empirical research and theoretical discussions (Syahrir, 2025).

While there is increasing interest in the contribution of FinTech to driving digital transformation and financial inclusion, relatively little research has focused on its strategic consequences for SME performance in emerging markets. One issue that is often raised in the literature is how to incorporate FinTech rather than just applying the technology superficially. In Indonesia, low financial and digital literacy are often reported important obstacles blocking SME owners from employing digital financial tools despite the existence of such intentions.(Nugraha et al., 2022; Rohaeni et al., 2025). In Malaysia, constraints are more closely associated with cybersecurity concerns and the high initial costs of implementation. Many SMEs remain hesitant to fully digitalize due to limited expertise and insufficient resources to establish robust security infrastructures (Mohamad Arifin et al., 2025). These findings suggest that obstacles go beyond technological access and have origins in human assets and institutional trust.

Empirical studies also reveal that there is a significant lag between early FinTech implementation and sustained performance effects. In Indonesia, the world of P2P lending has grown at breakneck speed, leading to a considerable enhancement in loan balances and a greater range of potential credit instruments for SMEs (Rosavina et al., 2019). Despite new options, many small businesses still stick to informal lending. This is largely because they lack trust in digital platforms, find the technology confusing, or are afraid of hidden high costs (SUNARDI et al., 2022). In Malaysia where digital finance has developed within a more mature institutional environment, efforts like the SME Digitalization Grant have helped foster technology uptake but firms seem to use FinTech tools only partially (such as for making digital payments) and not incorporate it into broader financial management systems, limiting improvements in efficiency (Husnayetti et al., 2024).

These contrasting experiences reflect a broader regional issue. Although FinTech offers significant potential to advance financial inclusion and economic expansion, its tangible effects on SME competitiveness, resilience to economic shocks, and long-term profitability are highly dependent on contextual factors. Recent studies indicate that regulatory quality and institutional trust are critical in explaining why FinTech generates substantial benefits for certain SMEs in developing economies but produces limited outcomes for others (Griffiths et al., 2025). Well designed regulatory frameworks strengthen trust and promote deeper adoption, while organizational preparedness, digital infrastructure, and cross sector collaboration are essential in converting technological adoption into measurable performance gains (Imansyah et al., 2025). Consequently, a comparative analysis of Indonesia and Malaysia can provide meaningful insights into how differing policy structures and innovation ecosystems either facilitate or restrict the strategic advantages of FinTech for SMEs.

Despite growing academic interest in the relationship between FinTech and SME performance, significant knowledge gaps remain. Much of the current literature is descriptive or survey based and often concentrates on single-country contexts, which restricts comparative insights. For instance, (Nugraha et al., 2022) identify a positive relationship between FinTech adoption drivers and innovation among Indonesian SMEs. In Malaysia, Al-Slehat (2023) highlights the mediating role of financial inclusion in enhancing business performance. However, limited research explores how variations in institutional maturity, regulatory environments, and digital infrastructure influence long-term strategic goals and firm sustainability.

Likewise, Fidhayanti et al. (2025) offer important observations regarding Malaysia's advanced legislative framework, particularly in Islamic banking, yet there remains no comprehensive comparative synthesis examining how national ecosystems shape FinTech's effectiveness in improving SME performance. The absence of an integrated and systematic analytical review constrains policymakers and practitioners from fully understanding how FinTech can transform SME outcomes across different national contexts.

To bridge this gap, the present research employs a systematic literature review combined with a comparative analytical framework. Instead of gathering primary data, the study consolidates findings from prior academic publications, policy papers, and official statistical sources to construct a structured comparison of FinTech adoption and its strategic implications for SMEs in Indonesia and Malaysia. The materials reviewed include peer-reviewed journal articles, institutional reports from bodies such as the Indonesian Financial Services Authority (OJK) and Bank Negara Malaysia, as well as publications from international organizations like the World Bank and the ASEAN Secretariat. Through this method, the study identifies recurring patterns, inconsistencies, and key explanatory factors that

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influence how FinTech adoption affects SME performance across different institutional settings.

The main research question guiding this review is: Why do patterns of FinTech adoption and their strategic effects on SME performance vary between Indonesia and Malaysia, and which regulatory, institutional, social, and economic factors explain these differences? In line with this question, the study aims to: (1) synthesize existing findings on the impact of FinTech adoption on SMEs' financial access, operational efficiency, and innovation capacity; (2) analyze how national policies, institutional preparedness, and digital infrastructure shape the outcomes of FinTech implementation; and (3) generate context-specific insights to assist policymakers and business development actors in strengthening FinTech-driven SME strategies in both countries.

This study offers three key contributions. First, it extends the FinTech literature beyond a narrow focus on operational efficiency by conceptualizing digital finance as a strategic asset whose effects are dynamic and shaped by institutional and managerial conditions (Kahveci, 2025). Second, it provides policymakers with a comparative perspective to evaluate the effectiveness of their digital ecosystems, supporting the development of more targeted strategies for SME digitalization. Third, it delivers practical insights for SME practitioners by outlining lessons learned, potential risks, and critical considerations for successful FinTech integration.

Finally, the study demonstrates originality in several ways. It adopts a comparative analytical perspective to explore FinTech's strategic significance in two geographically close yet structurally different economies an approach that remains limited in current scholarship. It also combines macro level institutional analysis with micro-level SME performance evaluation within a single framework. Furthermore, by applying a transparent and replicable synthesis of secondary sources, including peer-reviewed research, central bank publications, and official SME statistics, the study proposes a rigorous methodological model for qualitative comparative research in the fields of economics and management.

LITERATURE REVIEW

This study is grounded in a multi-theoretical framework that integrates complementary perspectives to explain how Small and Medium Enterprises (SMEs) adopt Financial Technology (FinTech) and how such adoption translates into varying dimensions of strategic performance. Rather than presenting a conventional narrative literature review, this section outlines the key conceptual foundations that guide the systematic synthesis and comparative evaluation of existing research findings.

Conceptualizing FinTech Adoption in SMEs

Financial Technology (FinTech) can be defined as the use of digital innovations to automate, improve, and fundamentally transform financial services and related processes (Gomber et al., 2018). What initially emerged as a niche development has expanded into a broad ecosystem encompassing digital payment systems, peer-to-peer lending, crowdfunding, insurtech, cryptocurrencies, and data driven financial platforms (Leong et al., 2017). Collectively, these innovations are reshaping how firms obtain, manage, and allocate financial resources.

For SMEs in developing economies, adopting FinTech represents more than a simple modernization effort. It often serves as an alternative to conventional financial institutions, which have historically struggled to meet the needs of smaller enterprises. Traditional banking systems frequently impose high collateral requirements, rely on limited or incomplete financial records, and operate through rigid or informal procedures that disadvantage small firms. Consequently, the decision to adopt FinTech should not be viewed solely as a technological choice, but rather as one embedded within broader socio economic and institutional contexts that shape access to finance and business development opportunities.

Technology Adoption Perspectives / TAM and DOI

The theoretical basis for understanding SME adoption of FinTech can be examined through behavioral models of technology acceptance. One of the most frequently applied frameworks in this area is the Technology Acceptance Model (TAM) developed by Davis (1989). TAM proposes that two primary determinants shape an individual's or organization's intention to adopt new technology: perceived usefulness and perceived ease of use (Davis, 1989). In developing country contexts, empirical research suggests that SMEs are more inclined to implement FinTech solutions when they clearly reduce costs, save time, and simplify operational processes (Alaeddin & Altounjy, 2018).

Beyond TAM, Rogers' Diffusion of Innovation (DOI) theory offers additional insight into how new technologies spread over time. (Rogers, 2003) identifies five key attributes that influence adoption rates: relative advantage, compatibility, complexity, trialability, and observability. Evidence from Malaysia shows that relative advantage particularly in terms of efficiency and market access and observability play a significant role in encouraging SMEs to adopt FinTech solutions (Wan Abdullah & Binti Hisamudin, 2024).

Taken together, TAM and DOI provide a comprehensive yet adaptable framework for explaining not only the initial decision to adopt FinTech but also the degree to which these technologies become integrated into everyday business practices. Within the comparative context of Indonesia and Malaysia, these frameworks help explain observed behavioral differences: Indonesian SME owners exhibit stronger TAM-driven adoption where perceived usefulness dominates, whereas Malaysian SMEs show higher alignment with DOI attributes particularly relative advantage and compatibility reflecting the latter's more established digital ecosystem (Wan Abdullah & Binti Hisamudin, 2024; Nugraha et al., 2022). These distinctions suggest that adoption models must be applied with institutional sensitivity rather than as universal predictors, a point that this review specifically seeks to address.

FinTech, Financial Inclusion, and Operational Capabilities

The relationship between FinTech and SME development has become an important area of inquiry within business, economics, and development studies, particularly in contexts where traditional banking systems fail to meet the financing needs of small and medium-sized enterprises. One of FinTech's most significant contributions has been its role in expanding financial inclusion. SMEs are often classified as high risk borrowers by conventional banks due to limited collateral, inconsistent financial documentation, and volatile revenue streams. As a result, persistent financing gaps continue to constrain their growth.

FinTech platforms especially peer-to-peer (P2P) lending and crowdfunding have reshaped this landscape by utilizing alternative data sources and automated credit evaluation systems (Berger & Udell, 2001). Compared to traditional banks, FinTech lenders are often more willing to extend credit to smaller and higher risk firms that would otherwise be excluded. Across ASEAN economies, digital lending services have increasingly provided SMEs with improved access to working capital, addressing long-standing barriers within formal credit markets (Singh & Kumari, 2025).

Beyond improving access to finance, FinTech adoption also generates operational benefits for SMEs. Digital payment technologies, including e-wallets and QR code based systems, help reduce transaction costs, accelerate cash inflows, and minimize reliance on manual processing. Similarly, automated accounting and financial management tools reduce human error while enhancing transparency and real time access to financial information. These efficiency gains allow SME managers to allocate more time and resources toward strategic priorities such as customer engagement, product development, and market expansion (Gomber et al., 2018).

Strategic Implications of FinTech Adoption

Recent research increasingly conceptualizes FinTech as a strategic driver that extends beyond operational improvements. From this viewpoint, adopting FinTech enables SMEs to transform their business models, strengthen their competitive positioning, and enhance organizational capabilities. Access to alternative financing mechanisms, for example, allows firms to secure capital for product innovation and expansion into previously untapped markets.

In addition, digital financial platforms produce rich transactional and customer data that can support more informed strategic decisions. Mahboub & Ghanem (2024) demonstrate that SMEs leveraging FinTech based analytics introduce new products at significantly higher rates than firms that do not adopt such technologies. In this regard, FinTech becomes a long-term strategic resource rather than merely a tool for short-term efficiency gains.

The strategic relevance of FinTech is especially visible during periods of economic instability. Ozili (2020) notes that SMEs that had integrated digital financial tools prior to the COVID-19 pandemic were better positioned to

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adapt, as they were able to maintain operations through online payment systems and remote financial management. This adaptability highlights the importance of digital financial capabilities in sustaining business continuity amid uncertain and rapidly changing market conditions.

However, the literature cautions that these strategic benefits are not automatic. The effectiveness of FinTech investments depends on several critical factors, including managerial digital literacy, comprehensive system integration, and alignment with broader organizational strategies. Without these elements, firms risk limiting adoption to surface-level implementation, resulting in minimal transformative impact (Khraisha & Arthur, 2018).

Institutional Context and Comparative Perspectives

Comparative research highlights the decisive influence of national institutional and regulatory environments on the development of FinTech ecosystems. Cross-country evidence indicates that variations in regulatory philosophy shape not only the pace of FinTech innovation but also its overall direction. For example, the comparatively flexible regulatory framework in the United States has fostered rapid experimentation and market-driven innovation, while Canada's more cautious and tightly supervised approach has produced a more gradual and controlled pattern of FinTech expansion (Kalai & Toukabri, 2024).

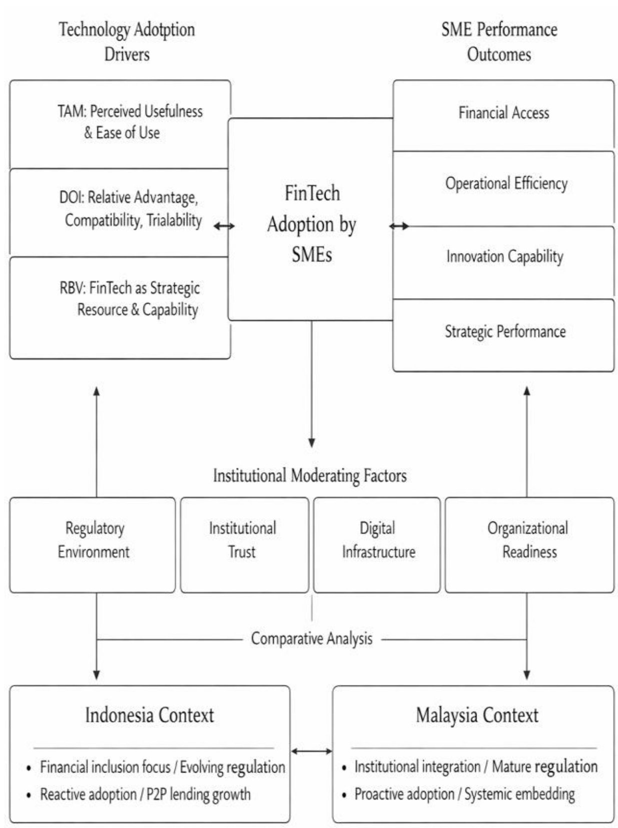
Comparable differences can also be observed across Asia. China's centralized regulatory model contrasts sharply with India's collaborative approach, which relies on mechanisms such as regulatory sandboxes to encourage innovation while maintaining oversight (Goyal, 2025). These examples underscore the importance of institutional design in shaping how FinTech ecosystems emerge and mature within different national contexts.

In Southeast Asia, state driven innovation strategies have supported FinTech expansion to varying degrees, leading to uneven development of national ecosystems (Mohamed, 2020). Although some recent research has compared particular technologies such as e-payment systems in Indonesia and Malaysia (Trianto et al., 2025) most existing studies still concentrate on the factors influencing initial adoption. Far less attention has been given to examining the longer-term strategic consequences that follow once FinTech solutions are implemented.

Analytical Framework and Research Focus

Although the body of literature on FinTech has expanded considerably, a clear research gap remains in explaining how and why the progression from FinTech adoption to sustained strategic advantage varies between Indonesia and Malaysia. Most existing studies adopt a single-country perspective and focus primarily on short-term operational or efficiency-related outcomes. As a result, the complex interplay between institutional settings, firm-level capabilities, and long-term SME performance has not been sufficiently examined. Critically, existing theoretical applications have tended to deploy TAM, DOI, RBV, or Institutional Theory in isolation, rather than as an integrated explanatory system. This fragmentation limits the explanatory power of individual frameworks and prevents researchers from capturing the multi-level dynamics that characterize FinTech adoption in emerging market contexts. The present study addresses this fragmentation directly by proposing an integrated analytical framework that links micro-level adoption behaviors to meso-level performance outcomes, moderated by macro-level institutional factors (see Figure 1).

To address this limitation, the present study adopts a comparative analytical approach that links micro level SME performance indicators with macro level institutional and regulatory environments. Instead of relying on hypothesis testing, the study is guided by research questions that structure a systematic synthesis of prior research. This approach enables a nuanced comparison of how national FinTech ecosystems either facilitate or constrain the realization of FinTech's strategic value for SMEs.



Source: Author's personal conception (2026)
Figure 1. Analytical Framework for FinTech Adoption and SME Performance.

Figure 1 presents the integrated analytical framework that guides the systematic synthesis and comparative analysis of this study. The framework operates on three interconnected levels. At the micro level, technology adoption decisions are shaped by three theoretical lenses: TAM captures how perceived usefulness and ease of use determine initial FinTech uptake among SME owners; DOI explains the diffusion trajectory as FinTech characteristics (relative advantage, compatibility, complexity) shape adoption rates across different firm types; and RBV reframes FinTech solutions as strategic intangible resources that generate competitive advantage when effectively embedded within firm processes. At the meso level, FinTech adoption produces five measurable performance dimensions for SMEs: financial access, operational efficiency, innovation capability, regulatory alignment, and institutional trust. The causal pathway from adoption to performance, however, is not direct, it is moderated by institutional-level factors including the regulatory environment, digital infrastructure quality, and organizational readiness. At the macro level, the framework explicitly situates these dynamics within the distinct national ecosystems of Indonesia and Malaysia, enabling a structured comparison of how contextual variation shapes FinTech outcomes. This multi-level design is what distinguishes the present framework from prior single-country or single-theory approaches, and it directly responds to the gap identified in the literature regarding the conditional nature of FinTech's strategic value for SMEs.

METHODS

Research Design and Review Protocol

This research applies a Systematic Literature Review (SLR) approach to collect and critically analyze prior studies on FinTech adoption and its strategic implications for SME performance in Indonesia and Malaysia. The SLR method was selected to ensure that the review process is comprehensive, transparent, and replicable, particularly given that earlier research in this field has been fragmented and methodologically inconsistent.

The review procedure adheres to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, which are widely recognized in management, economics, and social sciences. PRISMA provides a structured framework for identifying, screening, assessing eligibility, and synthesizing relevant studies. By following this protocol, the study minimizes potential bias and enhances the credibility and robustness of its findings.

Data Sources and Databases

To ensure thorough and balanced coverage of both academic and policy related literature, several databases and trusted institutional sources were used. Academic databases were chosen to gather peer reviewed research, while institutional sources were added to place scholarly findings within the relevant regulatory and policy frameworks for FinTech and SMEs.

Table 1. Databases and Data Sources Used in the Review

Data Source	Type	Coverage and Rationale
Scopus	Academic database	Wide access to peer-reviewed journals covering economics, finance, management, and technology-related research.
Web of Science (Core Collection)	Academic database	High impact interdisciplinary research to validate academic quality.
Google Scholar	Academic search engine	Supplementary source to identify regional and emerging-market studies not fully indexed elsewhere.
Indonesian Financial Services Authority (OJK)	Institutional reports	Regulatory documents and FinTech related SME statistics in Indonesia.
Bank Negara Malaysia	Institutional reports	Official publications on digital finance, SME financing, and regulatory frameworks.
World Bank and ASEAN Secretariat	International organizations	Macroeconomic indicators and regional insights relevant to SME development and FinTech diffusion.

Source: Compiled by the author based on systematic searches carried out across Scopus, Web of Science, Google Scholar, and official institutional databases, in accordance with PRISMA guidelines (Page et al., 2021).

Search Strategy and Search Strings

A systematic search strategy was created with specific keywords and special words called Boolean operators to keep everything consistent across different databases. The search phrases were changed to fit each database's rules, but they still meant the same thing.

Table 2. Search Strategy and Search Strings

Conceptual Dimension	Keywords and Search Strings
Financial Technology	FinTech, financial technology, digital finance, electronic payments.
SMEs	SMEs, small and medium enterprises, small businesses.
Performance Outcomes	SME performance, competitiveness, operational efficiency, financial access, innovation.
Geographic Scope	Indonesia, Malaysia, Southeast Asia.
Combined Search Example	(FinTech OR digital finance) AND (SMEs OR small and medium enterprises) AND (Indonesia OR Malaysia).

Source:Developed by the authors in accordance with PRISMA systematic review protocols and best practices for literature search strategies(Kitchenham & Charters, 2007; Page et al., 2021).

The search was restricted to English language publications to maintain consistency in analysis and was carried out for studies published from 2018 up to 2025, capturing the latest stage of FinTech growth in Southeast Asia.

Inclusion and Exclusion Criteria

Clear guidelines for including and excluding studies were followed to make sure they were relevant, reliable, and properly conducted.

Table 3. Inclusion and Exclusion Criteria

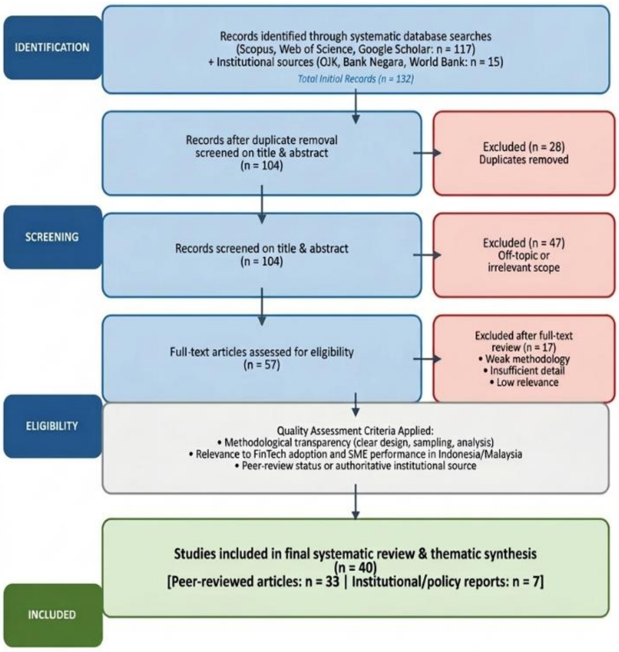
Inclusion Criteria	Exclusion Criteria
Peer-reviewed journal articles and authoritative institutional reports	Opinion pieces, editorials, and blog articles
Publications between 2018–2025	Studies published before 2018
Focus on FinTech adoption or digital finance	Studies unrelated to financial technologies
Explicit relevance to SMEs	Studies focused solely on large enterprises or banks
Studies covering Indonesia, Malaysia, or comparative ASEAN contexts	Studies without geographic relevance
Clear methodological description	Studies lacking methodological transparency

Source: Author defined inclusion and exclusion criteria formulated based on PRISMA recommendations and prior systematic review methodologies in management and information systems research(Page et al., 2021; Tranfield et al., 2003).

Screening and Selection Process (PRISMA)

The process for selecting studies followed the four stage PRISMA approach: identification, screening, eligibility, and inclusion. We began by searching all relevant databases and institutional resources, which provided 132 records. After removing duplicates, 104 records were left and were reviewed based on their titles and abstracts. As a result, 47 records were excluded because they didn't fit the study's focus or relevance.

Then, we performed a full-text review of the remaining 57 studies.
During this stage, 17 studies were excluded due to unclear methods, insufficient detail, or limited relevance to the context. Finally, 40 studies were kept for further analysis and comparison.



Source: Authors' compilation following PRISMA 2020 guidelines (Page et al., 2021)

Figure 2. PRISMA Flow Diagram of the Study Selection Process.

Quality Assessment Protocol

To ensure the credibility and reliability of the included studies, a structured quality assessment protocol was applied during the full-text review phase. Each study was evaluated against three primary criteria: (1) methodological clarity whether the study provided sufficient description of its research design, data collection procedures, and analytical methods; (2) contextual relevance whether findings directly addressed FinTech adoption and SME performance in Indonesia, Malaysia, or a comparable emerging market context; and (3) source credibility whether the work appeared in a peer-reviewed journal indexed in Scopus or Web of Science, or originated from a recognized institutional authority (e.g., OJK, Bank Negara Malaysia, World Bank). Studies were assigned a quality rating of Low, Moderate, or High on each criterion. Only studies rated Moderate or High on at least two criteria were retained in the final sample of 40. This protocol ensured that the thematic synthesis was grounded in methodologically sound and contextually appropriate evidence, minimizing the risk of drawing conclusions from low-quality or peripheral sources (Tranfield et al., 2003; Kitchenham & Charters, 2007).

Data Extraction and Analytical Framework

Data were carefully gathered from each study included in the review using a consistent matrix. The information collected included the year the study was published, the country it focused on, the type of FinTech examined, the theory used in the study, and the results related to how SMEs performed. This organized method helped ensure that all the studies were compared fairly and in a uniform way.

Thematic Synthesis Approach

Because the studies included in the review varied in their research methods and the outcomes they measured, a thematic synthesis was used. This method is suitable for systematic reviews when it's not possible to combine data quantitatively, and when understanding the context is important. The synthesis was done in three steps: first, identifying common ideas about why FinTech is adopted, what stops it from being adopted, and its effects. second, grouping these ideas into broader themes; and third, comparing these themes between Indonesia and Malaysia.

Table 4. Thematic Synthesis Framework

Theme	Description
inancial Access	Role of FinTech in expanding credit availability and alternative financing for SMEs.
Operational Efficiency	Effects of digital financial tools on cost reduction, transaction speed, and process optimization.
Innovation Capability	nfluence of FinTech on product innovation, service delivery, and business model transformation.
Regulatory Environment	Impact of laws, policies, and supervisory frameworks on FinTech adoption.
Institutional Trust	Role of trust, cybersecurity, and consumer protection in sustaining FinTech usage.

Source: Author's thematic synthesis based on the qualitative aggregation of findings from the selected studies, following established thematic analysis and qualitative synthesis approaches([Braun & Clarke, 2006](); [Thomas & Harden, 2008]()).

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Methodological Rigor and Limitations

To ensure methodological rigor, this review adhered to PRISMA 2020 guidelines and implemented several quality-safeguarding procedures throughout the process. First, a structured quality assessment protocol was applied to each full-text article during the eligibility phase. Studies were evaluated on three criteria: (1) methodological transparency whether the study clearly described its research design, sampling approach, and analytical procedures; (2) relevance whether findings directly addressed FinTech adoption and SME performance in Indonesia, Malaysia, or a comparable Southeast Asian context; and (3) source credibility whether the work appeared in a peer-reviewed journal or originated from an authoritative institutional body. Studies that did not meet at least two of these three criteria were excluded. Second, to reduce selection bias, the screening process was conducted in two independent passes by the lead researcher, with discrepancies between the two passes reviewed and resolved through a deliberate reconciliation procedure. While independent dual-reviewer screening was constrained by the study's resource context, the double-pass approach served as a partial substitute to improve consistency. Third, the thematic coding procedure followed an inductive approach grounded in Thomas and Harden (2008). Initial codes were derived from recurring constructs within the included studies, which were then grouped iteratively into higher-order themes. Each theme was anchored by a minimum of three independent sources to ensure convergent validity. Despite these measures, certain limitations remain. The review relies exclusively on English-language publications, which may underrepresent grey literature or locally-published research in Bahasa Indonesia or Bahasa Malaysia. Additionally, methodological heterogeneity across included studies spanning surveys, case studies, bibliometric analyses, and institutional reports limits direct quantitative aggregation. These limitations were addressed through careful contextual interpretation and explicit acknowledgment of inter-study variability throughout the thematic synthesis.

RESULTS AND DISCUSSION

RESULTS

This section outlines the outcomes of the systematic literature review, which is based on the thematic synthesis of the 40 selected studies. The results are structured around five main themes that appeared repeatedly in the reviewed literature: financial access, operational efficiency, innovation capability, regulatory environment, and institutional trust. Each of these themes is analyzed in comparison to emphasize the similarities and differences between Indonesia and Malaysia.

Financial Access

Across the reviewed literature, FinTech adoption is consistently linked to improved financial access for SMEs in both Indonesia and Malaysia. In Indonesia, most studies highlight the importance of peer-to-peer (P2P) lending platforms and mobile-based financial services in enabling micro and small enterprises to address funding constraints. These solutions are frequently viewed as alternative financing channels that lessen dependence on traditional banking institutions, particularly for businesses operating within informal or semi formal sectors.

In contrast, Malaysia presents a more structured and institutionally embedded FinTech landscape, where digital financial innovations tend to complement rather than substitute conventional banking systems. Malaysian SMEs typically benefit from FinTech through stronger integration with formal financial institutions, including digital banking services, electronic payment platforms, and government-backed financing initiatives.

While both countries demonstrate improvements in financial accessibility, the underlying drivers differ. In Indonesia, progress is largely associated with expanding financial inclusion, whereas in Malaysia, advancements stem from stronger institutional alignment and deeper integration within established financial systems.

Operational Efficiency

The findings indicate that FinTech adoption enhances operational efficiency among SMEs in both Indonesia and Malaysia, although the magnitude and scope of its impact differ. In Indonesia, SMEs primarily benefit from more streamlined payment systems, faster transaction processing, and reduced administrative burdens through the use of digital wallets and mobile payment platforms. However, most studies suggest that these efficiency gains are largely confined to payment-related functions and seldom extend to broader financial management activities.

In Malaysia, the evidence points to more comprehensive efficiency improvements. SMEs that integrate FinTech into accounting systems, cash flow monitoring, and supply chain management generally report more substantial operational advancements. Nevertheless, research also shows that many Malaysian firms adopt FinTech selectively, applying it to specific functions rather than embedding it across their entire financial ecosystem. As a result, while measurable improvements occur, they do not always translate into full organizational transformation.

Overall, the comparison underscores that the depth of FinTech integration within business processes plays a more decisive role in driving performance improvements than mere adoption alone.

Innovation Capability

The literature indicates that FinTech adoption contributes to greater innovation among SMEs, although the extent and nature of this impact differ across countries. In Indonesia, FinTech is generally associated with incremental and gradual innovation, such as experimenting with online business models, digital marketplaces, and alternative financing channels. These developments are often viewed as adaptive responses to immediate market pressures rather than components of long-term strategic planning.

In contrast, Malaysia places stronger emphasis on process and service innovation. This trend is supported by higher levels of digital readiness and more structured government backing. Malaysian SMEs are more likely to integrate FinTech into broader digital transformation strategies, enabling improved customer engagement, more effective use of data analytics, and the delivery of customized services. Nevertheless, research also highlights that innovation gains are unevenly distributed. Smaller firms frequently encounter obstacles, including limited digital competencies and the substantial costs associated with implementing advanced technologies.

Regulatory Environment

The regulatory framework plays a crucial role in shaping the trajectory of FinTech development in both countries. In Indonesia, studies frequently describe a rapidly evolving regulatory landscape characterized by experimentation and gradual formalization. This dynamic environment has facilitated the swift expansion of FinTech particularly in peer-to-peer lending but has also generated uncertainty among SMEs concerning platform credibility, consumer safeguards, and long-term viability.

In contrast, research on Malaysia often highlights the presence of well-defined regulations, proactive supervision, and structured policy instruments such as regulatory sandboxes. These features are widely regarded as strengthening institutional trust and encouraging more deliberate and sustainable FinTech adoption among SMEs.

Overall, the comparison suggests that the maturity and stability of the regulatory environment significantly influence whether FinTech adoption yields short-term gains or contributes to sustained improvements in business performance.

Institutional Trust

Institutional trust emerges as a central determinant across all stages of FinTech adoption. In Indonesia, numerous studies report that SMEs express concerns regarding platform reliability, data security, and the transparency of interest rates. Such apprehensions often reduce confidence in digital financial services, leading many SMEs to adopt FinTech cautiously or to combine digital solutions with traditional and informal financing practices.

In Malaysia, comparatively higher levels of institutional trust reinforced by clearer regulatory frameworks and stronger consumer protection mechanisms are associated with more consistent and assured use of FinTech among SMEs. Nevertheless, the literature also identifies emerging risks, including cybersecurity threats and limited financial or digital literacy among certain business owners. If left unaddressed, these issues could weaken confidence and undermine the long-term sustainability of FinTech adoption.

Overall, the evidence suggests that trust is not merely a supporting factor but a critical condition shaping the extent to which SMEs can derive strategic value from FinTech implementation.

Cross Country Comparative Synthesis

When comparing the findings, the evidence shows that FinTech adoption offers similar kinds of benefits to small and medium-sized enterprises

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(SMEs) in both Indonesia and Malaysia. However, the methods through which these benefits are achieved and the depth of their strategic impact are quite different between the two countries. In Indonesia, SMEs mostly use FinTech to enhance financial inclusion and to overcome challenges with short-term financing. On the other hand, Malaysian SMEs tend to integrate FinTech into their broader operational and strategic approaches, which are supported by more robust institutional frameworks.

These differences are connected to variations in regulatory environments, digital infrastructure, organizational readiness, and levels of institutional trust.

Most importantly, the analysis highlights that simply adopting FinTech doesn't automatically result in long-term improvements in business performance. Instead, the real value of FinTech depends on how well its solutions match up with the existing institutional context and the specific capabilities of the firm.

Summary of Key Findings

In general, the results show similar and different ways in which FinTech adoption affects SME performance in Indonesia and Malaysia. Both countries show clear advantages in financial access and operational efficiency, but the type, extent, and how deeply these effects are rooted in their systems differ a lot. To make it easier to compare the main themes between the two countries, a summary of the key findings is given in Table 5.

Table 5. Summary of comparative thematic findings on FinTech adoption and SME performance in Indonesia and Malaysia

Thematic Dimension	Indonesia	Malaysia
Access to Finance	FinTech platforms rimarily enhance nancial inclusion by xpanding access to igital payments, eer-to-peer lending, ıd alternative nancing channels or underserved MEs.	inTech adoption rengthens access to nance through ıtegration with ormal banking /stems, Islamic nance instruments, ıd structured digital redit assessment ameworks.
Operational Efficiency	fficiency gains are ıainly transaction-riented, focusing on ıster payments, mplified ookkeeping, and educed operational ictions at the firm vel.	fficiency nprovements are /stem-oriented, ıpported by ıteroperability etween FinTech olutions, banks, and egulatory platforms.
Innovation Capability	ınovation is largely daptive, with SMEs ıcrementally dopting FinTech ools to respond to ıarket pressures and ıstomer xpectations.	ınovation is more rocess-driven, with MEs leveraging inTech to redesign usiness models, nancial ıanagement ractices, and service elivery.
Regulatory Environment	he regulatory amework is volving, with ngoing adjustments ımed at balancing ınovation promotion ıd consumer rotection.	he regulatory ıvironment is omparatively ıature, offering learer guidelines, egulatory ındboxes, and ronger institutional oordination.
Trust and Adoption Drivers	rust in FinTech ervices is growing ut remains ıfluenced by digital teracy levels and erceived security sks.	igher institutional ust and regulatory larity contribute to ronger and more able adoption of inTech solutions ıong SMEs.
Impact on SME Performance	erformance impacts e primarily eflected in improved quidity ıanagement, short-rm growth pportunities, and ıarket access.	erformance utcomes are more ructurally nbedded, ontributing to ıstained roductivity gains ıd long-term nancial resilience.

Source: Synthesized by the authors based on evidence extracted from the final sample of peer-reviewed studies and institutional reports included in this systematic review.

DISCUSSION

This study set out to systematically examine and compare the strategic impacts of FinTech adoption on SME performance in Indonesia and Malaysia through a structured synthesis of existing empirical and policy oriented literature. The analysis explains the results using well-known theories, such as the Resource-Based View, Institutional Theory, and Technology Acceptance models. It also places the findings in the wider context of economies that are still developing.

FinTech as a Strategic Resource for SMEs

The findings indicate that FinTech should not be viewed merely as an operational support tool; when effectively embedded within business processes, it can evolve into a strategic asset for SMEs. From the perspective of the Resource-Based View (RBV), FinTech solutions represent intangible resources that can generate competitive advantage by enhancing efficiency, strengthening adaptability, and improving access to critical financial services (Barney, 1991).

In both Indonesia and Malaysia, FinTech adoption is consistently associated with improved financial access and more efficient transaction processes. However, the degree to which these improvements translate into sustained, long-term performance gains varies across the two contexts. This pattern is consistent with RBV theory, which maintains that resources alone do not ensure lasting competitive advantage unless they are valuable, difficult to imitate, and effectively integrated within the firm (Barney, 1991).

In Indonesia, although FinTech tools often provide functional benefits, their strategic potential is frequently constrained by limited digital literacy and managerial capabilities (Nugraha et al., 2022; Rohaeni et al., 2025). As a result, these resources may remain underutilized. By contrast, Malaysian SMEs appear better positioned to embed FinTech within broader financial and operational systems, enabling more consistent productivity gains and stronger long-term performance outcomes (Al-Slehat, 2023).

Institutional Environment and Cross Country Differences

Institutional Theory offers a valuable lens for interpreting the differences observed between Indonesia and Malaysia. The findings suggest that regulatory quality, institutional trust, and policy consistency play decisive roles in shaping the strategic use of FinTech. In Malaysia, a relatively robust regulatory framework supported by Bank Negara Malaysia and structured digital finance initiatives enhances SME confidence and encourages more deliberate and effective integration of FinTech solutions (Fidhayanti et al., 2025; Trianto et al., 2025).

In contrast, Indonesia's institutional environment remains in transition, characterized by rapid development alongside regulatory adjustments and uneven implementation (Nugraha et al., 2022). Although initiatives led by the Financial Services Authority (OJK) have contributed to expanding financial inclusion, regulatory uncertainty and concerns about platform credibility continue to limit SMEs' willingness to depend fully on FinTech for strategic decision-making. This pattern is consistent with prior research indicating that institutional trust functions as a critical mediating factor between technology adoption and firm performance in developing economies (Griffiths et al., 2025).

Financial Inclusion Versus Performance Transformation

A key insight emerging from the analysis is the clear distinction between financial inclusion and genuine performance transformation. While much of the existing literature emphasizes FinTech's role in expanding access to financial services, this review indicates that improved access alone does not automatically translate into enhanced SME performance. In Indonesia, for example, FinTech adoption has largely contributed to short-term liquidity support and more efficient transaction processes, rather than fostering sustained business growth or long-term strategic development (Rosavina et al., 2019; SUNARDI et al., 2022).

In Malaysia, however, financial inclusion is typically reinforced by structured institutional support, allowing SMEs to move beyond basic access toward more effective financial planning, risk management, and operational expansion. This finding aligns with (Anita Fatmawati, 2024), who argues that the performance outcomes of FinTech adoption are mediated by internal organizational capabilities and alignment with institutional environments.

Therefore, FinTech should not be regarded as an automatic catalyst for improved performance. Instead, it functions as an enabling mechanism whose effectiveness depends on the degree of organizational preparedness and the broader contextual conditions in which it is implemented.

Technology Acceptance and Organizational Readiness

From the perspective of technology acceptance theory, the findings indicate that perceived usefulness and perceived ease of use strongly influence the initial decision to adopt

FinTech. However, the continuity of use and its broader organizational impact depend largely on the firm's internal readiness. In Indonesia, SMEs often adopt FinTech reactively, responding to market pressures or competitive demands rather than following a clearly defined strategic roadmap. This reactive pattern tends to restrict the transformative potential of FinTech and limits its contribution to deeper organizational change (Mulyana et al., 2024).

In contrast, Malaysian SMEs generally demonstrate a more proactive approach to FinTech adoption. Their engagement is supported by structured training programs, government incentives, and effective institutional coordination. This behavior aligns with the extended Technology Acceptance Model, which highlights the importance of external support and facilitating conditions in shaping post-adoption outcomes and long-term impact (Syahrir, 2025).

Trust, Risk, and Sustainability of FinTech Adoption

Trust plays a crucial role in how long people continue to use FinTech services. In Indonesia, worries about cybersecurity, data privacy, and unclear interest rates, especially in peer-to-peer lending, still prevent people from fully embracing and using these services over a longer period(SUNARDI et al., 2022). These concerns support the idea that how much risk people perceive can change how adopting FinTech impacts performance, particularly SMEs that have less capacity to handle risks.

In Malaysia, the comparatively mature regulatory environment established by Bank Negara Malaysia builds higher levels of institutional trust and leads to more consistent and widespread use of FinTech among SMEs. This result is in line with the findings of Griffiths et al. (2025), who highlight that regulatory credibility supports both faster adoption and stronger long-term outcomes.

Theoretical and Practical Implications

From a theoretical perspective, this study contributes to the FinTech and SME literature by bringing together the Resource-Based View and Institutional Theory through a detailed comparison and systematic review. The results show that the real value of FinTech comes from the situation it's used in, and it's influenced by how developed the institutions are and the abilities of the organization, not just by having access to technology.

From a practical standpoint, the results suggest that policymakers should not just push for more FinTech use but should also work on improving digital skills, making regulations more consistent, and building trust in institutions.

For SME owners, the findings highlight the need to use FinTech as part of their main business operations, not just for simple tasks.

Theoretical Propositions Emerging from the Comparative Synthesis

Drawing on the integrated analytical framework and the thematic synthesis of 40 studies, this review proposes four theoretical propositions that represent its novel contribution to the FinTech and SME literature. These propositions are presented as empirically-grounded hypotheses for future confirmatory research, rather than as tested conclusions.

Theoretical Propositions from the Comparative Systematic Review

This review presents four propositions concerning the impact of FinTech adoption on SME performance in emerging markets, each grounded in theoretical frameworks and supported by contextual evidence.

Proposition 1 (P1): The strategic performance impact of FinTech adoption on SMEs is positively moderated by the maturity of the national regulatory environment. Grounded in Institutional Theory (DiMaggio & Powell, 1983) and Griffiths et al. (2025), this proposition finds support in the contrast between Malaysia and Indonesia: Malaysian SMEs demonstrate deeper FinTech integration and stronger performance outcomes under Bank Negara Malaysia's structured regulatory framework, compared to their Indonesian counterparts operating within OJK's still-evolving environment.

Proposition 2 (P2): FinTech-enabled financial access and sustained SME performance transformation are distinct outcomes access gains alone are insufficient for performance improvement without firm-level capability alignment. Drawing on the Resource-Based View (Barney, 1991) and the Technology Acceptance Model (Davis, 1989), the evidence shows that while Indonesian SMEs benefit from expanded P2P lending access, they exhibit limited long-term productivity gains due to insufficient digital literacy and managerial capability (Nugraha et al., 2022; Rosavina et al., 2019).

Proposition 3 (P3): The depth of FinTech integration multi-functional use versus payment-only adoption is a stronger predictor of SME performance outcomes than adoption breadth or frequency of use. Anchored in RBV dynamic capabilities, Diffusion of Innovation theory (Rogers, 2003), and Kahveci (2025), contextual evidence reveals that SMEs in both countries frequently adopt FinTech at a surface level, while Malaysian firms with system-embedded adoption demonstrate measurably superior efficiency and resilience outcomes (Husnayetti et al., 2024; Al-Slehat, 2023).

Proposition 4 (P4): Institutional trust shaped by perceived regulatory credibility and platform transparency mediates the relationship between FinTech adoption and sustained performance outcomes in emerging markets. Supported by Institutional Theory, Griffiths et al. (2025), and SUNARDI et al. (2022), the evidence shows that concerns over platform credibility and opaque interest rates in Indonesia reduce the continuity of FinTech use, whereas Malaysia's higher institutional trust produces more consistent long-term adoption and stronger performance benefits (Wan Abdullah & Binti Hisamudin, 2024).

Addressing the Research Gap

This study addresses a key gap in existing research by taking a comparative and systematic approach, as most previous work has largely focused on single country and survey based analyses. The results indicate that national ecosystems play a significant role in shaping FinTech outcomes, emphasizing the importance of designing policies that take local contexts into account and encouraging more comparative research in the future.

CONCLUSION

This systematic review examined and compared the strategic effects of FinTech adoption on SME performance in Indonesia and Malaysia. The findings show that FinTech contributes positively to SMEs in both countries, particularly by improving access to finance and supporting operational efficiency. However, the depth and sustainability of these benefits differ clearly across contexts.

In Indonesia, FinTech mainly serves as a tool for financial inclusion, helping SMEs address short-term liquidity needs and reduce transaction barriers. While these benefits are important, they often remain operational and do not consistently translate into long-term performance improvement. In contrast, Malaysian SMEs tend to integrate FinTech more systematically into their financial and operational activities, supported by stronger regulatory frameworks and higher levels of institutional trust. This allows FinTech to contribute more effectively to long-term productivity and strategic development.

In general, the study demonstrates that FinTech alone does not guarantee improved SME performance. Its strategic value depends on how well it is embedded within organizational processes and supported by institutional conditions. By adopting a comparative and systematic approach, this research highlights the importance of context sensitive policies and provides a clearer understanding of how FinTech can support sustainable SME development in emerging economies.

Research Limitations. This study is subject to several limitations. It relies solely on secondary data from existing literature and institutional reports, which restricts the ability to capture firm-level behaviors and causal mechanisms. In addition, differences in methodologies and performance measures across the reviewed studies limit direct comparability of findings. The focus on English-language publications and the specific contexts of Indonesia and Malaysia may also constrain the generalizability of the results beyond the examined settings.

Recommendations for Further Research. Future research is encouraged to employ primary data and quantitative or mixed methods approaches to examine causal relationships between FinTech adoption and SME performance. Expanding the analysis to additional emerging economies and incorporating moderating factors such as digital literacy, managerial capability, and regulatory quality would enhance comparative understanding. Longitudinal studies are also recommended to assess the long-term strategic effects of FinTech adoption on SMEs.

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