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Digital financial innovation and MSMES' sustainable performance in developing countries: A prisma-based systematic review

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Abstract
MSMEs play a vital role in economic growth and job creation in developing countries, yet they still face numerous challenges that can be addressed through digital financial innovation, although evidence on their impact on sustainable performance remains fragmented and not yet comprehensively integrated. This study presents a PRISMA-based systematic literature review of 40 studies retrieved from Web of Science and Scopus (2020–2025). The selected studies were synthesized using thematic content analysis to identify dominant theoretical foundations, methodological approaches, and contextual factors. The findings show that digital financial innovation improves MSME performance through enhanced financial inclusion, operational efficiency, and business resilience. However, the magnitude of these effects varies across countries due to differences in digital infrastructure, regulatory environments, and digital literacy levels. Cross-sectional designs dominate the literature, while longitudinal evidence remains limited. Overall, institutional and infrastructural readiness is a key determinant of the effectiveness of digital financial innovation in supporting MSME sustainability.

Keywords: Developing Economies, Digital Financial Innovation, MSMEs, Sustainable Business Performance, Financial Inclusion

Abstrak
UMKM berperan penting dalam pertumbuhan ekonomi dan penciptaan lapangan kerja di negara berkembang, namun masih menghadapi berbagai kendala yang dapat diatasi melalui inovasi keuangan digital, meskipun bukti mengenai dampaknya terhadap kinerja berkelanjutan masih tersebar dan belum terintegrasi secara komprehensif. Studi ini menyajikan tinjauan literatur sistematis berbasis PRISMA terhadap 40 studi yang diperoleh dari Web of Science dan Scopus (2020–2025). Studi yang terpilih disintesis menggunakan analisis konten tematik untuk mengidentifikasi landasan teori dominan, pendekatan metodologis, dan faktor kontekstual. Hasil penelitian menunjukkan bahwa inovasi keuangan digital meningkatkan kinerja UMKM melalui peningkatan inklusi keuangan, efisiensi operasional, dan ketahanan bisnis. Namun, besarnya dampak tersebut bervariasi antar negara karena perbedaan infrastruktur digital, lingkungan regulasi, dan tingkat literasi digital. Desain cross-sectional masih mendominasi literatur, sementara bukti longitudinal masih terbatas. Secara keseluruhan, kesiapan institusional dan infrastruktur merupakan faktor penentu utama efektivitas inovasi keuangan digital dalam mendukung keberlanjutan UMKM.

Kata kunci: Ekonomi Berkembang, Inovasi Keuangan Digital, Umkm, Kinerja Bisnis Berkelanjutan, Inklusi Keuangan

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1. Introduction

Micro, Small, and Medium-Sized Enterprises (MSMEs) represent a fundamental pillar of economic activity in developing countries, playing a critical role in employment generation, income distribution, and economic resilience. In emerging economies, MSMEs account for a substantial share of total employment and gross domestic product (GDP). However, despite their importance, MSMEs continue to face persistent structural constraints, including limited access to formal financial services, weak financial management capabilities, and high exposure to economic and market volatility (Demir et al., 2022; Murinde et al., 2022). These constraints significantly hinder their ability to achieve long-term sustainable business performance and competitiveness.

In response to these challenges, rapid advancements in digital technologies have reshaped financial ecosystems in developing countries. Digital financial innovation, including financial technology services, mobile payment systems, digital lending platforms, and online financial services, has emerged as a transformative mechanism for addressing long-standing financial constraints faced by MSMEs (Wang et al., 2025; Xiang et al., 2025). By reducing transaction costs, expanding access to financial resources, and improving operational efficiency, digital financial innovation is increasingly recognized as a key driver of business sustainability and inclusive economic growth (Choiruddin et al., 2025; Zhou & Pacala, 2025).

Although a growing body of empirical research has examined the relationship between digital financial innovation, financial inclusion, and MSME performance, the existing literature remains fragmented across disciplines, methodologies, and national contexts. Prior studies have reported mixed and heterogeneous findings, reflecting variations in institutional quality, regulatory environments, digital infrastructure, and financial literacy across developing countries (Abbas et al., 2024; Schrank & Kijkasiwat, 2025). However, beyond this fragmentation, there is still limited integrative evidence explaining the underlying mechanisms through which digital financial innovation translates into sustainable MSME performance, particularly under differing institutional conditions.

Moreover, existing review studies and bibliometric analyses tend to focus broadly on fintech adoption, SME financing, or digital financial services, without explicitly integrating sustainability dimensions into MSME performance outcomes in developing economies. As a result, there remains a lack of comprehensive synthesis regarding the dominant research themes, theoretical foundations, methodological approaches, and contextual determinants that shape this emerging field (Hanelt et al., 2021; Skare et al., 2023).

To address these gaps, this study systematically reviews and synthesizes existing literature on digital financial innovation and sustainable business performance of MSMEs in developing countries using the PRISMA framework. Specifically, this study is guided by the following research questions:

RQ1: What are the dominant research themes in the literature on digital financial innovation and MSME sustainable performance in developing countries?

RQ2: What theoretical frameworks are most frequently used to explain this relationship?

RQ3: What methodological approaches dominate prior studies in this field?

RQ4: How do contextual factors such as institutional quality, digital infrastructure, and financial literacy influence the impact of digital financial innovation on MSME performance?

This study contributes to the literature in three main ways. First, it integrates fragmented empirical findings into a structured synthesis that highlights the mechanisms linking digital financial innovation and MSME sustainability, particularly through financial inclusion. Second, it consolidates multiple theoretical perspectives, including Resource-Based View, Institutional Theory, and Technology Acceptance Model, to provide a more coherent analytical framework. Third, it emphasizes the role of contextual heterogeneity in developing economies, offering a more nuanced understanding of how institutional and infrastructural conditions shape outcomes.

By consolidating fragmented evidence, this review provides a more coherent knowledge base and offers implications for future research, managerial decision-making, and policy formulation aimed at strengthening MSME sustainability in developing economies.

2. Literature Review

Digital Financial Innovation and MSME Performance

Digital financial innovation has been widely examined in the context of management, finance, and economics, particularly in relation to MSME development in emerging economies. Rather than being a uniform concept, digital financial innovation encompassing fintech platforms, mobile payments, digital lending, and electronic financial systems (Liu et al., 2024; Rusch et al., 2023) is increasingly understood as a heterogeneous phenomenon whose impact varies depending on institutional and technological environments. While the literature generally positions digital financial innovation as a mechanism to reduce information asymmetry, lower transaction costs, and expand financial access, these outcomes are not consistently achieved across all contexts, indicating that its effectiveness is conditional rather than universal.

From the MSME perspective, digital financial innovation is frequently framed as an enabler of financial inclusion and improved firm performance. Empirical studies suggest that these innovations facilitate access to formal financial systems, thereby improving sustainable business performance through enhanced resource allocation and operational efficiency (Valdez-Juárez et al., 2024; L. Zhang et al., 2023). However, this positive narrative is not fully consistent across studies. A number of findings indicate that benefits are contingent upon internal firm capabilities and external ecosystem readiness, suggesting that digital financial innovation alone does not automatically translate into improved performance outcomes.

MSMEs in emerging economies continue to face structural constraints such as limited financing options, weak financial infrastructure, and high operational uncertainty. In this context, digital financial innovation is often positioned as a strategic response to these constraints by enhancing financial inclusion and enabling more efficient financial management practices (Saranya & Ramyasri, 2025; Song et al., 2025). Nevertheless, the extent of its effectiveness remains uneven, highlighting the importance of examining contextual and institutional conditions that shape outcomes.

Theoretical Perspectives

The Resource Based View RBV is widely used to explain digital financial innovation as a strategic resource that enhances MSME competitiveness and performance. Digital financial capabilities are considered valuable, rare, and difficult to imitate, thereby enabling firms to improve operational efficiency, financial control, and value creation (Holz, 2026; Yusoff et al., 2026). However, RBV based explanations tend to prioritize internal firm resources while underemphasizing structural limitations in developing economies, where inadequate infrastructure may weaken the value of such capabilities (Adile et al., 2025).

Institutional Theory provides a complementary but more externally oriented explanation, emphasizing the role of regulatory frameworks, financial infrastructure, and institutional support in shaping the effectiveness of digital financial innovation (Balzano et al., 2025; Gupta & Jagtap, 2024). This perspective highlights that MSME outcomes are strongly shaped by environmental conditions rather than firm capabilities alone. Empirical evidence supports this view by showing that financial literacy, digital readiness, and regulatory quality significantly influence the effectiveness of digital financial innovation (Fauzi & Sheng, 2022; Mmadubuko et al., 2025). This suggests that institutional conditions may act as boundary conditions for the success of digital finance initiatives in developing countries.

The Technology Acceptance Model TAM introduces a behavioral dimension by explaining adoption through perceived usefulness and perceived ease of use among MSME owners (Asmara et al., 2023; Trinugroho et al., 2022). However, while TAM is effective in explaining adoption decisions, it is less capable of explaining performance outcomes after adoption. Stakeholder Theory extends the analytical scope by positioning digital financial innovation as a mechanism that balances the interests of multiple actors, including firms, customers, financial institutions, and regulators (Bridoux & Stoelhorst, 2022; Chaudhuri et al., 2024). Despite its relevance, this perspective remains less empirically operationalized in MSME focused studies. Overall, the theoretical review indicates fragmentation rather than integration, where each theory explains only a specific dimension of digital financial innovation without providing a unified explanatory framework.

Digital Financial Innovation and Sustainable Business Performance

Empirical findings generally indicate that digital financial innovation has a positive relationship with MSME performance, particularly through improved access to finance, operational efficiency, and business resilience. Digital platforms such as online lending systems and mobile payment technologies are associated with improved working capital management, reduced reliance on informal financing, and better cash flow stability (Norbu et al., 2024; Shehayeb, 2026). In addition, these innovations contribute to broader sustainability outcomes, including adaptability and long term business continuity (Nugraha et al., 2022; Thathsarani & Jianguo, 2022).

However, this general positive trend is not universal. Several studies report weak or insignificant effects of digital financial innovation, particularly in environments characterized by limited digital infrastructure, weak regulatory systems, cybersecurity risks, and low managerial capability (Supriadi et al., 2022; Y. Zhang et al., 2025). These mixed findings suggest that the impact of digital financial innovation is highly context dependent rather than uniformly positive.

A comparative reading of the literature further reveals that inconsistencies in findings are not only methodological but also structural. Differences in institutional development, digital ecosystem maturity, and financial literacy levels across developing countries significantly shape the outcomes of digital financial innovation. This reinforces the argument that contextual conditions are critical determinants of MSME performance outcomes.

Research Gap and Innovation of This Study

Despite the growing body of literature, most existing studies remain fragmented and predominantly empirical, focusing on specific countries or isolated dimensions such as fintech adoption or financial inclusion. Consequently, there is limited integration of sustainability oriented MSME performance within the broader digital financial innovation literature in developing economies (Raffaelli et al., 2025; Tidjani & Madouri, 2024). This fragmentation has limited the development of a unified understanding of how digital financial innovation translates into sustainable business outcomes.

In addition, previous review studies tend to rely on bibliometric mapping or descriptive synthesis, without providing deeper analytical integration across theoretical perspectives or systematically comparing empirical inconsistencies. This creates a gap in understanding the mechanisms, boundary conditions, and theoretical convergence in this research domain.

The innovation of this study lies in addressing these limitations through a systematic and critical synthesis of the literature using a PRISMA based approach. Unlike previous reviews, this study integrates multiple theoretical lenses, including Resource Based View, Institutional Theory, and Technology Acceptance Model, into a more unified analytical framework. Furthermore, it positions MSME sustainable performance as the central outcome and explicitly examines how institutional and infrastructural conditions moderate the effects of digital financial innovation in developing economies.

The synthesized conceptual framework of this study is illustrated in Figure 1, which highlights the mediating and moderating mechanisms shaping MSME sustainable performance in developing economies.

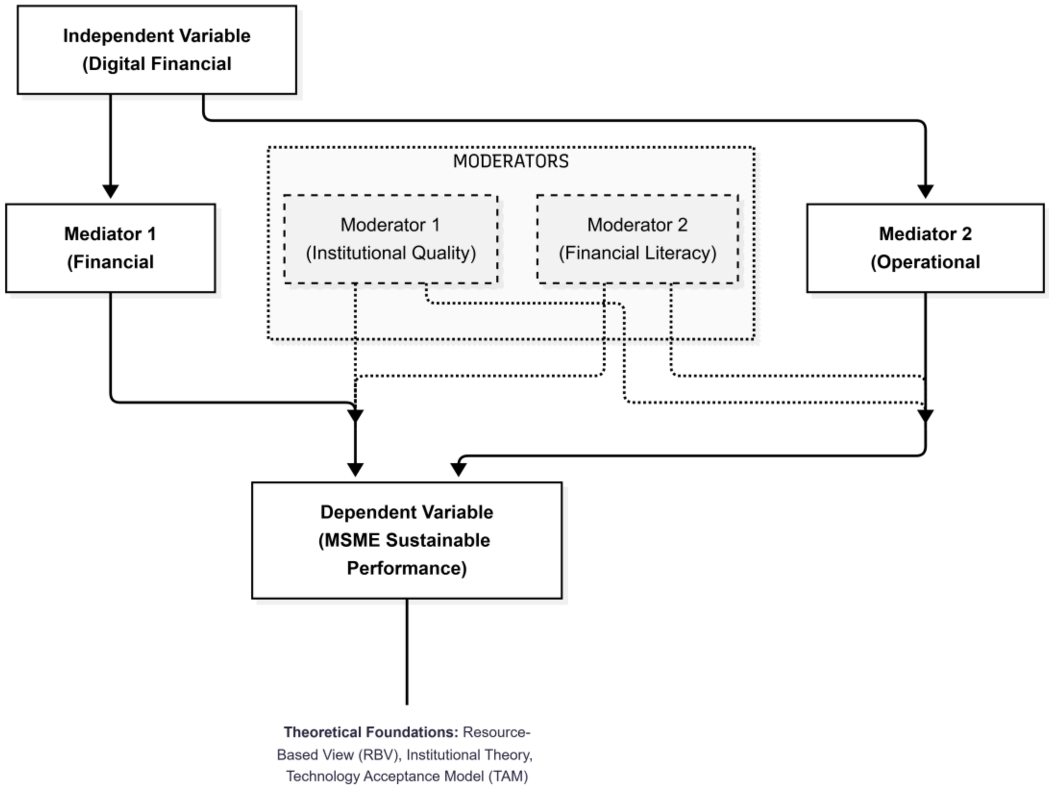

Figure 1. Conceptual Framework

This conceptual framework integrates Resource-Based View, Institutional Theory, and Technology Acceptance Model to explain how Digital Financial Innovation influences MSME sustainable performance. The model posits that digital financial innovation does not directly enhance performance, but operates through Financial Inclusion and Operational Efficiency as mediating mechanisms. In addition, Institutional Quality and Financial Literacy act as moderating variables that shape the strength of these relationships. Overall, the framework highlights that the impact of digital financial innovation is context-dependent and determined by both institutional conditions and firm-level capabilities in developing economies.

3. Research Method

This research adopts SLR (Systematic Literature Review) to consolidate and critically analyse the current literature on service digital Innovation in finance and the economic performance of MSMEs in developing nations. The SLR methodology was selected to preserve the rigor, transparency, and reproducibility of this study according to the standards for evidence-based management and operations research (Sauer & Seuring, 2023). In this sense, it can help to bring together disjointed results found in different disciplines, contexts and research methods in a concise and aligned manner.

To thoroughly identify, evaluate, and analyze empirical studies on the influence of digital financial innovation on the sustainable business performance of MSMEs in developing countries, this study adopts a systematic review approach. The review is designed to capture not only the breadth of existing research, but also the depth of theoretical perspectives, methodological tendencies, and contextual variations that shape the relationship between digital financial innovation and MSME outcomes. In this sense, the systematic review enables a more rigorous and structured synthesis of fragmented findings across different countries, sectors, and research traditions, thereby providing a clearer understanding of how digital financial innovation contributes to sustainability-related performance dimensions in MSMEs.

The review uses the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) criteria, which are widely applied in business, management, and finance research to ensure consistency, transparency, and reproducibility throughout the review process. PRISMA guided the whole process, making it clear and systematic at every stage, including identification of relevant literature, screening of studies, assessment of eligibility, and inclusion of the final articles in the analysis (Page et al., 2021).

The literature search was conducted using two major bibliographic databases, namely Web of Science and Scopus, because both are widely recognized for indexing high-quality peer-reviewed publications in management, finance, economics, and business research. These databases were selected to ensure that the review captured studies published in reputable journals with strong academic standards and broad international coverage. In addition, using both sources helped reduce the risk of omitting relevant studies that may appear in only one database, thereby improving the comprehensiveness of the review. Web of Science was considered valuable for its rigorous indexing and citation coverage, while Scopus was chosen because of its extensive journal coverage and strong representation of interdisciplinary research. The use of these two databases also supported the methodological rigor of the study by increasing the likelihood that the final synthesis would reflect a balanced and robust body of evidence on digital financial innovation and MSME sustainable performance in developing countries.

The search strategy was developed to identify relevant, high-quality, and empirically grounded studies on digital financial innovation, MSMEs, sustainability, and developing countries. To achieve this, a structured set of keywords and phrases was designed and combined using Boolean operators such as AND, OR, and wildcard symbols to improve precision and relevance. The search terms included variations of digital financial innovation, such as fintech, digital finance, digital financial innovation, mobile payment, digital payment, digital lending, financial technology, and digital financial inclusion. These terms were combined with MSME-related terms, including MSME, SME, micro small and medium enterprises, and small and medium-sized enterprises. They were then linked with outcome-related keywords such as sustainable performance, business performance, financial performance, resilience, and sustainability, as well as contextual terms such as developing countries and emerging economies. This combination was intended to capture studies that directly examined the relationship between digital financial innovation and MSME performance in developing-country contexts.

The complete search string used in the databases was as follows:

("digital financial innovation" OR fintech OR "digital finance" OR "digital financial inclusion" OR "digital payment*" OR "mobile payment*" OR "digital lending" OR "financial technology")

AND

(MSME* OR SME* OR "micro small and medium enterprises" OR "small and medium-sized enterprises" OR "microenterprise*" OR "small business*" OR "medium-sized business*")

AND

("sustainable performance" OR sustainability OR "business performance" OR "financial performance" OR resilience OR "firm performance")

AND

("developing countr*" OR "emerging econom*" OR "developing econom*" OR EMDE* OR "low-income countr*" OR "middle-income countr*")

The search was limited to English-language journal articles published between 2020 and 2025 in order to focus on the most recent and relevant developments in the field. This time frame was selected because digital financial innovation has expanded rapidly in recent years, particularly in response to technological change, digital transformation, and evolving financial ecosystems in developing countries. The search strategy was applied consistently across both databases to ensure comparability of results and to minimize selection bias. In addition, the search process was designed to be replicable, allowing other researchers to apply the same logic and retrieve a similar body of literature. As a result, the search strategy provided a systematic foundation for identifying studies that were most closely aligned with the objectives of the review.

To ensure that the studies included in this review were relevant to the research objectives and methodologically sound, explicit inclusion and exclusion criteria were established prior to the screening process. The review was limited to peer-reviewed journal articles indexed in Scopus or Web of Science and written in English. Only studies that examined MSMEs as the primary unit of analysis and were conducted in developing countries or emerging economies were considered. In addition, the selected studies had to investigate digital financial innovation directly, including but not limited to fintech, digital payments, mobile payments, digital lending, or other related financial technologies. The studies were also required to report outcomes related to business performance, financial performance, resilience, sustainability, or other dimensions of sustainable MSME performance.

Articles were excluded if they focused exclusively on large firms, developed countries, or topics unrelated to digital financial innovation and MSME performance. Conference papers, book chapters, editorials, commentaries, book reviews, and other non-peer-reviewed documents were also excluded to maintain the academic rigor of the review. Studies that did not provide sufficient empirical or conceptual relevance to the relationship between digital financial innovation and MSME sustainability were removed from consideration.

In addition to relevance-based screening, a quality appraisal was conducted to assess the methodological rigor of each eligible study. The appraisal examined whether the study had clearly stated objectives, an appropriate research design, a transparent description of the sample or data source, a valid analytical procedure, and findings that were supported by the evidence presented. Studies were retained for synthesis only if they met the minimum quality threshold and demonstrated sufficient methodological clarity and reliability. This additional appraisal step helped ensure that the final corpus of studies was not only relevant to the topic, but also credible and suitable for analytical synthesis.

The study selection process was conducted following the PRISMA framework, which guided the review through four sequential stages: identification, screening, eligibility assessment, and final inclusion. In the identification stage, a total of 1,245 records were retrieved from Scopus and Web of Science. Prior to screening, 245 duplicate records were removed, along with 110 records marked as ineligible by automated filtering tools and 45 records excluded for other reasons, resulting in 845 records for screening. During the screening stage, titles and abstracts were reviewed to assess their relevance to the research objectives. At this stage, 705 records were excluded because they did not align with the focus on digital financial innovation, MSMEs, or developing-country contexts. The remaining 140 reports were sought for full-text retrieval. Of these, 20 reports could not be accessed, leaving 120 full-text articles for eligibility assessment. These full-text reports were then evaluated against the predefined inclusion and exclusion criteria. A total of 80 reports were excluded at this stage for the following reasons: lack of MSME focus (n = 25), non-developing country context (n = 20), absence of sustainability outcomes (n = 18), conceptual or review-only studies (n = 12), and insufficient methodological rigor (n = 5). Finally, 40 studies met all eligibility criteria and were included in the qualitative synthesis.

A PRISMA flow diagram (Figure 2) is presented to transparently illustrate the entire screening and selection process, summarizing the number of records at each stage from initial identification to final inclusion. This enhances the transparency, replicability, and methodological rigor of the review.

Each study was systematically examined to extract key information, including author(s), year of publication, country or region, research design, theoretical framework, and the specific form of digital financial innovation investigated. In addition, outcome variables were recorded, particularly those related to MSME performance, sustainability, financial inclusion, operational efficiency, business resilience, and access to finance. To ensure consistency and comparability, the extracted data were organized into a structured data extraction matrix, enabling systematic comparison across studies and facilitating the identification of similarities, differences, and emerging patterns in the literature. This structured approach allowed the review to move beyond descriptive summaries and toward a more analytical synthesis.

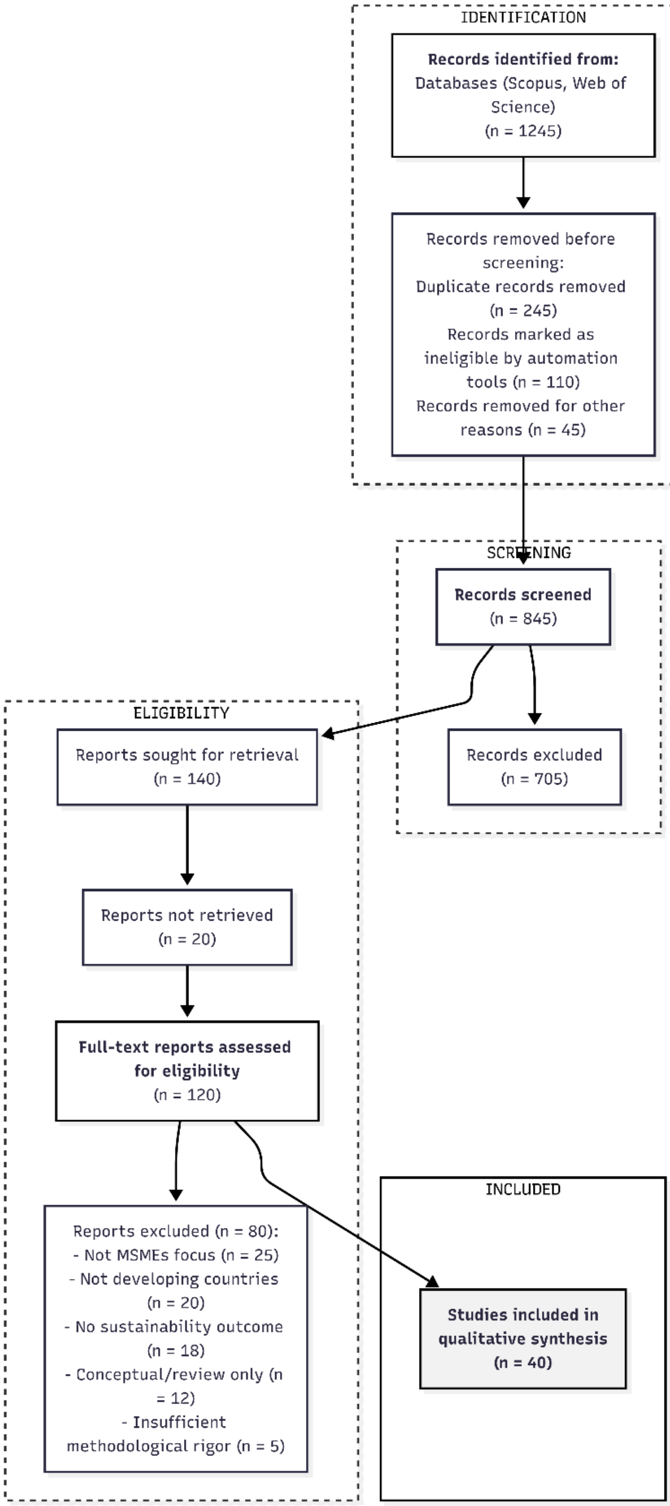

Figure 2. PRISMA flow diagram of the study selection process

The extracted data were then analyzed using thematic content analysis. An iterative coding process was applied to categorize findings into key themes, theoretical perspectives, methodological approaches, and contextual determinants. This process enabled the identification of dominant patterns, such as the role of financial inclusion as a mediating mechanism, the influence of institutional quality and financial literacy as moderating factors, and the predominance of cross-sectional research designs.

Furthermore, the analysis also highlighted inconsistencies across studies, particularly regarding the varying impact of digital financial innovation under different institutional and infrastructural conditions in developing countries. This indicates that the relationship between digital financial innovation and MSME sustainable performance is context-dependent rather than universally consistent.

The adoption of this structured and transparent data extraction and analysis procedure enhances the reliability, validity, and reproducibility of the systematic review. It also provides a robust analytical foundation for interpreting findings, identifying research gaps, and supporting the development of a conceptual framework for future research on digital financial innovation and MSME sustainability.

4. Results and Discussion

4.1. Results

Descriptive Characteristics of the Reviewed Studies

This study synthesizes 40 articles selected through a systematic PRISMA-based process. The descriptive analysis aims to provide an overview of the characteristics of the reviewed literature, including methodological approaches, theoretical foundations, and contextual focus. The literature consistently highlights the growing importance of digital financial innovation in transforming MSMEs' access to financial services. Prior studies emphasize that fintech has significantly reshaped the interaction between MSMEs and the financial system, particularly by expanding access to digital financial services and improving financial inclusion (Sanga & Aziakpono, 2023). These developments have contributed to reducing transaction costs and information asymmetry, which are common barriers in traditional financial systems.

From a methodological perspective, the reviewed studies demonstrate considerable variation. A large proportion of the literature adopts quantitative approaches, focusing on statistical analysis and empirical testing, while other studies rely on qualitative synthesis and conceptual exploration (Karim et al., 2022). This variation indicates the absence of a dominant methodological approach and suggests the need for more balanced and integrative research designs.

In terms of theoretical grounding, the literature does not treat digital financial innovation as a homogeneous construct. Some studies employ specific theoretical frameworks such as financial inclusion, technology adoption, or institutional perspectives, while others adopt broader innovation-based or entrepreneurship-oriented approaches without explicit theoretical anchoring (Verma et al., 2023). This diversity reflects fragmentation in the theoretical development of the field. A comprehensive synthesis of the reviewed studies, including authors, research context, methodology, theoretical framework, and key findings, is presented in Table 1.

Digital Financial Innovation and Access to Finance

A dominant theme across the literature is the role of digital financial innovation in improving MSMEs' access to finance. The proliferation of digital financial instruments has reduced reliance on traditional collateral-based financing and enabled broader participation in formal financial systems. Digital credit, mobile payment services, and alternative financing mechanisms have been shown to significantly enhance financial inclusion among MSMEs (Wang et al., 2025).

Table 1. Summary of Reviewed Studies (SLR Synthesis)

No	Author(s)	Year	Country/ Context	Method	Key Focus	Main Findings
1	The world bank	2020	Developing countries	Report	Digital finance & inclusion	Digital finance expands MSME financial access
2	Hanelt et al.	2021	Global	SLR	Digital transformation	Digitalization drives firm adaptability
3	Demir et al.	2022	Multi-country	Quantitative	Fintech & inclusion	Fintech improves financial inclusion
4	Fauzi & Sheng	2022	Developing countries	Quantitative	Institutional perspective	Institutional quality shapes digital adoption
5	Karim et al.	2022	ASEAN	Quantitative	Fintech for SMEs	Fintech improves SME financing access
6	Murinde et al.	2022	Global	Conceptual	Fintech impact	Fintech transforms financial systems
7	Nugraha et al.	2022	Indonesia	Quantitative	Fintech adoption	Adoption improves SME innovation
8	Supriadi et al.	2022	Indonesia	Quantitative	Digital innovation	Improves SME financial performance
9	Thathsarani & Jianguo	2022	Developing countries	Quantitative	TAM & finance	Adoption improves SME performance
10	Trinugroho et al.	2022	Indonesia	Quantitative	Digital adoption	Enhances MSME access to finance
11	Gupta et al.	2022	Global	Bibliometric	TAM	Behavioral adoption critical
12	Sanga & Aziakpono	2023	Global	SLR	Fintech & SMEs	Fintech reduces financing barriers
13	Rusch et al.	2023	Global	Review	Digital sustainability	Digital tech supports sustainability
14	Dai et al.	2023	China	Quantitative	Digital finance	Reduces SME leverage constraints
15	Zhang et al.	2023	China	Quantitative	Financial inclusion	Promotes SME innovation
16	Skare et al.	2023	Europe	Quantitative	Digital transformation	Improves SME competitiveness
17	Verma et al.	2023	Global	Review	Fintech & SMEs	Identifies research gaps
18	Sauer & Seuring	2023	Global	Methodology	SLR methods	Ensures rigor in synthesis
19	Asmara et al.	2023	Indonesia	Quantitative	TAM adoption	Technology acceptance drives usage
20	Chaudhuri et al.	2024	Global	Quantitative	Innovation capability	Improves sustainability performance
21	Liu et al.	2024	China	Quantitative	Digital innovation	Enhances green performance
22	Nuryanto et al.	2024	Indonesia	Quantitative	Digital adaptability	Improves MSME sustainability
23	Ofori-Sasu et al.	2024	Africa	Quantitative	Digital finance system	Improves economic outcomes
24	Norbu et al.	2024	Global	SLR	Blockchain adoption	Trust affects adoption
25	Valdez-Juárez et al.	2024	Mexico	Quantitative	Digital transformation	Strengthens financial performance
26	Suresh et al.	2024	Developing countries	Conceptual	Efficiency	Reduces operational costs

No	Author(s)	Year	Country/ Context	Method	Key Focus	Main Findings
27	Tidjani & Madouri	2024	Africa	Quantitative	Fintech & SDGs	Supports sustainability
28	Gupta & Jagtap	2024	India	Qualitative	Digital barriers	Adoption depends on readiness
29	Abbas et al.	2024	Global	Quantitative	Innovation & growth	Digital innovation boosts firm performance
30	Raffaelli et al.	2025	Latin America	Quantitative	Fintech & SDGs	Enhances financial inclusion
31	Ahmed et al.	2025	Oman	Quantitative	Government support	Moderates fintech adoption
32	Adile et al.	2025	Morocco	Quantitative	Digital transformation	Improves SME financial performance
33	Choiruddin et al.	2025	Indonesia–Malaysia	Quantitative	Literacy & fintech	Literacy improves sustainability
34	Mmadubuko et al.	2025	Developing countries	Quantitative	Institutional support	Moderates SME performance
35	Schrank & Kijkasiwat	2025	Developing countries	Quantitative	Fintech & human capital	Improves performance
36	Wang et al.	2025	China	Quantitative	Digital finance	Drives SME innovation
37	Xiang et al.	2025	China	Quantitative	Inclusive finance	Improves innovation
38	Xie & Chen	2025	China	Quantitative	Financial literacy	Enhances entrepreneurship
39	Zhang et al.	2025	China	Quantitative	Digital finance	Improves productivity
40	Zhou & Pacala	2025	Developing countries	Quantitative	Digital finance	Supports sustainability practices

Operational Efficiency and Cost Reduction

Another recurring theme is the contribution of digital financial technology to operational efficiency. Fintech solutions simplify financial processes, improve transaction speed, and reduce administrative complexity. These improvements are associated with cost reduction, enhanced workflow integration, and better overall business performance (Suresh et al., 2024).

Business Resilience and Long-Term Sustainability

Beyond financial access and efficiency, several studies have highlighted the role of digital financial innovation in strengthening MSME resilience and long-term sustainability. Digital financial channels enable firms to maintain operations during periods of disruption and adapt to changing economic conditions, thereby supporting business continuity and long-term competitiveness (Satpathy et al., 2025).

Institutional and Contextual Moderators

The literature consistently indicates that the impact of digital financial innovation is context-dependent rather than uniform. Institutional factors such as regulatory frameworks, digital infrastructure, and business environment conditions play a crucial role in shaping outcomes. Variations in these factors across developing countries can either enhance or constrain the effectiveness of digital financial innovation (Ahmed et al., 2025).

Identified Research Gaps

Despite the generally positive findings, several gaps remain evident. Many studies primarily focus on financial outcomes, with limited attention to broader sustainability dimensions, particularly environmental and social aspects. In addition, empirical evidence is concentrated in a relatively narrow set of countries, limiting the generalizability of findings across diverse developing contexts.

Furthermore, the dominance of cross-sectional methodologies restricts the ability to capture long-term effects of digital financial innovation. Theoretical fragmentation also persists, as studies adopt diverse frameworks without sufficient integration. These limitations indicate the need for a more comprehensive and theory-driven understanding of how digital financial innovation contributes to MSME sustainable performance (Nuryanto et al., 2024).

4.2. Discussion

This section interprets the findings of the review by linking them to established theoretical frameworks and contextual conditions in developing countries. The discussion focuses on explaining how digital financial innovation influences MSME sustainable performance, why effects vary across contexts, and what implications emerge for practice, policy, and future research.

Theoretical Interpretation and Underlying Mechanisms

The results indicate that digital financial innovation enhances MSME sustainable performance primarily through improved access to finance, increased operational efficiency, and strengthened business resilience. These findings are consistent with the dominant themes identified in the results section and can be explained through multiple theoretical perspectives.

From the Resource-Based View RBV, digital financial capabilities function as strategic intangible resources that enable MSMEs to improve efficiency, liquidity management, and value creation (Ferreira & Ferreira, 2025). The adoption of digital payments, fintech-enabled lending, and digital financial management systems reduces transaction costs and enhances resource utilization, thereby supporting long-term performance and business continuity. This confirms that digital financial innovation operates not only as a technological tool but also as an organizational capability embedded in firm operations.

Institutional Theory provides an explanation for the variation in outcomes across developing countries. The results show that the effectiveness of digital financial innovation is highly dependent on regulatory quality, digital infrastructure, and institutional trust (Baharom & Abdullah, 2025). In contexts with strong institutional support, MSMEs are more likely to experience sustained performance improvements. Conversely, in weaker institutional environments, adoption tends to be cautious and the resulting benefits are more limited. This aligns with the findings in the results section that highlight institutional conditions as key boundary factors.

The Technology Acceptance Model TAM further explains the behavioral dimension of adoption. The results indicate that perceived usefulness and ease of use influence whether MSME owners adopt digital financial services, while digital literacy and managerial capability determine whether adoption translates into improved performance outcomes (Gupta et al., 2022; Xie & Chen, 2025). This suggests that behavioral readiness is a critical mechanism linking digital financial innovation to sustainability outcomes. Overall, the integration of RBV, Institutional Theory, and TAM provides a more comprehensive explanation of how digital financial innovation contributes to MSME sustainable performance through resource optimization, institutional enablement, and behavioral adoption processes.

Contextual Moderators in Developing Countries

Consistent with the results, this study finds that the impact of digital financial innovation is highly context dependent. Variations in digital infrastructure, internet penetration, and platform accessibility significantly influence MSMEs' ability to adopt and benefit from digital financial services (Dai et al., 2023).

Institutional readiness also plays a crucial role. Regulatory frameworks on digital security, data privacy, and consumer protection affect trust and adoption of digital financial services (Ofori-Sasu et al., 2024). In environments with weak governance or regulatory uncertainty, MSMEs tend to hesitate in adopting fintech solutions, thereby limiting potential performance gains. These findings reinforce the importance of external conditions identified in the results section as key moderating factors.

Implications for Practice and Policy

The findings suggest several practical implications. For MSME owners and managers, the adoption of digital financial tools such as digital payments, fintech-based credit, and automated financial systems can improve efficiency, stabilize cash flow, and enhance resilience. However, these benefits depend on the development of digital financial literacy and managerial capabilities.

From a policy perspective, the results highlight the importance of strengthening digital infrastructure, improving regulatory frameworks, and promoting financial literacy programs. A supportive institutional environment enhances the effectiveness of digital financial innovation, particularly for resource-constrained MSMEs (World Bank, 2020). For fintech providers, the findings indicate the need to design adaptable and inclusive financial solutions that consider varying levels of institutional and technological readiness across developing countries. Tailored approaches that address trust and risk concerns are more likely to generate sustainable outcomes.

Limitations and Directions for Future Research

The findings also reveal several limitations in the existing literature. As identified in the results, most studies rely on cross-sectional designs, limiting the ability to capture long-term sustainability dynamics. Future research should adopt longitudinal approaches to better understand how MSMEs utilize digital financial innovation over time. In addition, sustainability is predominantly measured in economic terms, while environmental and social dimensions remain underexplored. Future studies should incorporate broader frameworks such as the Triple Bottom Line to provide a more comprehensive assessment of sustainable performance (Vukovic et al., 2025).

Finally, greater theoretical integration is needed. While RBV, Institutional Theory, and TAM provide useful insights, combining these perspectives more systematically could improve explanatory power and enhance comparability across studies.

5. Conclusion

This study provides a systematic and theory-driven synthesis of the literature on digital financial innovation and MSME sustainable business performance in developing countries. The findings confirm that digital financial innovation functions not only as a technological tool but also as a strategic and organizational capability whose effectiveness depends on both internal readiness and external institutional conditions.

This review offers three main contributions. First, it consolidates fragmented empirical evidence by identifying the key mechanisms through which digital financial innovation influences MSME sustainability, particularly through financial inclusion, operational efficiency, and business resilience. Second, it integrates multiple theoretical perspectives, including Resource-Based View, Institutional Theory, and Technology Acceptance Model, into a unified analytical framework, thereby advancing a more coherent explanation of how digital financial innovation translates into performance outcomes. Third, it highlights the role of contextual heterogeneity in developing countries by demonstrating that institutional quality, digital infrastructure, and financial literacy act as critical boundary conditions shaping the effectiveness of digital financial innovation.

The findings also indicate that the impact of digital financial innovation is not uniform across contexts. Differences in regulatory environments, digital infrastructure, and financial capabilities significantly influence the extent to which MSMEs can benefit from digital financial services. As such, the benefits of digital finance should not be considered universally transferable across developing economies.

From a policy perspective, this study suggests several actionable implications. First, governments should prioritize investments in digital infrastructure and ensure reliable access to digital financial services, particularly for underserved MSMEs. Second, regulatory frameworks need to be strengthened to enhance trust, data security, and consumer protection in digital financial ecosystems. Third, targeted financial literacy and digital capability programs are essential to improve MSMEs’ ability to effectively adopt and utilize digital financial tools.

Overall, this study underscores the importance of adopting a more integrated and context-sensitive approach in understanding digital financial innovation and MSME sustainability. By combining theoretical integration with empirical synthesis, this review provides a structured foundation for future research, as well as practical guidance for policymakers and practitioners seeking to leverage digital financial innovation for sustainable economic development.

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