

Digital Payment Adoption and MSME Competitiveness in Indonesia: The Roles of Transaction Efficiency, Financial Inclusion, and Business Performance

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Abstract

The adoption of digital payments, particularly through the Quick Response Code Indonesian Standard (QRIS) and a range of financial technology (fintech) instruments, has expanded rapidly as a catalyst for the transformation of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia. Yet, the literature linking such adoption to MSME competitiveness remains fragmented across disciplines and theoretical frameworks. This study aims to map the intellectual and thematic structure of that literature and to formulate an integrative model explaining the roles of transaction efficiency, financial inclusion, and business performance. The method is a Systematic Literature Review (SLR) guided by the PRISMA 2020 protocol and combined with bibliometric analysis, comprising performance analysis and science mapping using VOSviewer, applied to 177 Scopus-indexed documents published between 2018 and 2026. The results reveal exponential publication growth peaking in 2024 to 2025, a strong dominance of Indonesian affiliations, and 1,620 total citations with a corpus h-index of 21. Keyword co-occurrence mapping uncovers three thematic clusters: digital payment adoption and acceptance; financial inclusion, financial literacy, and business performance; and the digital economy and competitiveness. The synthesis indicates that digital payment adoption enhances MSME competitiveness not directly but through the mediating mechanisms of transaction efficiency and financial inclusion, which ultimately drive business performance. The study contributes an empirically testable model and a future research agenda for digital MSME competitiveness.

Keywords: digital payment; QRIS; MSME competitiveness; financial inclusion; transaction efficiency; business performance; bibliometrics.

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1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) constitute the backbone of the Indonesian economy. Yet they persistently face structural barriers, including limited access to financing, low digital literacy, and weak formal financial records. In this context, financial technology (fintech) has repeatedly been positioned as a catalyst for the growth and development of MSMEs [1], [2], [3]. The presence of fintech does more than introduce new instruments; it reshapes the way MSMEs access financing, manage transactions, and interact with markets [4], [5], [6]. One of the most tangible manifestations of this transformation is the digitalization of payment systems.

Since Bank Indonesia launched QRIS in 2019, digital payment adoption among MSMEs has risen sharply and has become the principal entry point to business digitalization. From the perspective of merchants in a developing country, QRIS offers a compact, secure cashless payment solution that lowers cash-handling costs [7], [8], [9]. The benefits users perceive, namely convenience, time savings, and security, are the primary drivers of the decision to use these instruments [10], [11], [12]. Digital payment has therefore been closely tied to the notion of transaction efficiency from the outset.

Theoretically, most of the literature explains digital payment adoption through the Technology Acceptance Model (TAM) and its extensions. Perceived usefulness and perceived ease of use are the principal determinants of digital payment system adoption among Indonesian MSMEs [13], [14], [15]. This baseline model has been progressively enriched with contextual variables such as religiosity, trust, and technology readiness better to fit the characteristics of local entrepreneurs [16], [9], [17].

Adoption, however, does not proceed without obstacles. Several studies highlight the resistance of traditional MSMEs, rooted in habit, perceived risk, and limited digital capability [18], [19], [20]. Trust and perceived risk prove decisive, so that sustained usage requires consistent trust-building mechanisms [21], [8], [10]. It is precisely this tension between benefits and barriers that shapes adoption dynamics in the field.

On the impact side, the literature shows that payment digitalization interacts with financial literacy and inclusion in influencing MSME performance. The combination of digital marketing, digital finance, and digital payment has been shown to improve MSME financial performance [15], [22], [4]. Meanwhile, financial literacy, fintech, and financial inclusion jointly drive business performance, with literacy frequently acting as a prerequisite for effective use [23], [24], [25].

Another prominent pathway is expanding access to financing. Peer-to-peer (P2P) lending schemes and digital financial inclusion broaden access to funds for MSMEs previously constrained by collateral and credit-history requirements [26], [27], [6]. Yet the expansion of digital lending also carries consequences for financial-system stability and credit performance

that must be managed [28], [29], [30]. Financial inclusion thus becomes the second mechanism linking digital payment adoption to business outcomes.

Despite this rich body of evidence, a clear synthesis gap remains: studies tend to stop at the determinants of adoption or at financial-performance effects in isolation, so that an explicit link between digital payment adoption and MSME competitiveness, through transaction efficiency, financial inclusion, and business performance, is rarely articulated within a single integrative framework [31], [32], [33]. This study addresses that gap through four research questions: (RQ1) how has the literature developed and what is its citation structure; (RQ2) what is its thematic structure based on keyword co-occurrence; (RQ3) how do transaction efficiency, financial inclusion, and business performance link adoption to competitiveness; and (RQ4) what future research agenda can be formulated.

2. Literature Review and Problem Statement

The dominant theoretical lens for explaining digital payment adoption among MSMEs is the Technology Acceptance Model (TAM), in which perceived usefulness and perceived ease of use determine the intention to use technology. In the Indonesian MSME context, TAM has been validated and extended to explain the adoption of digital payment systems and broader financial technology [13], [14], [15]. Its parsimony and predictive power explain its enduring popularity, yet scholars increasingly argue that the baseline model is insufficient to capture the social and institutional realities faced by micro-entrepreneurs [16], [9], [10].

Accordingly, a second stream extends the acceptance paradigm with contextual constructs. Studies integrate religiosity, the technology-readiness and acceptance model, and trust into the framework to reflect the cultural characteristics of Indonesian entrepreneurs and consumers [16], [9], [17]. This extended view treats adoption not as a purely rational-technical decision but as one embedded in social influence, habit, and institutional confidence, thereby improving explanatory power across heterogeneous MSME segments [10], [8], [12].

A third stream concentrates on trust, perceived risk, and security as pivotal determinants. Trust in the platform and in transaction security strongly shapes both initial adoption and continued use, whereas perceived risk depresses adoption intention, particularly among entrepreneurs with limited digital literacy [8], [21], [19]. This literature emphasizes that trust-building mechanisms and risk mitigation are prerequisites for converting one-time use into sustained, habitual adoption [21], [12], [20].

A complementary and critical stream theorizes resistance rather than acceptance. Drawing on Innovation Resistance Theory, scholars explain why traditional MSMEs delay or reject digital payments despite evident benefits, identifying usage, value, risk, tradition, and image barriers [18], [19], [34]. These barriers are multidimensional, spanning psychological, technical, and infrastructural domains, and help account for the persistent gap between intention to adopt and sustained, actual use in the field [19], [20], [7].

Beyond adoption, a substantial body of work frames fintech as a catalyst for financial inclusion. Fintech widens access to formal financial services and, through the digital footprints generated by cashless transactions, enables alternative credit scoring and financing pathways such as peer-to-peer lending [1], [2], [6]. This is especially salient for informal and unbanked MSMEs. However, the rapid expansion of digital lending raises concerns about financial-system stability and credit performance that the literature has begun to examine [26], [28], [29].

A further stream positions financial literacy as the mechanism that converts access into productive use and superior performance. Empirical studies consistently find that financial literacy, fintech adoption, and financial inclusion jointly enhance MSME business performance and sustainability across regions and demographic groups [23], [24], [25]. Recent serial mediation and mediated-moderation models further specify how literacy and access to finance translate into performance and, ultimately, into sustainable competitive advantage shaped by institutional and local-wisdom factors [32], [35], [33].

Synthesizing these streams reveals a persistent gap. The literature is rich on the determinants of adoption and on isolated performance effects. Still, it rarely models transaction efficiency as an explicit mediating construct, and the chain linking adoption to competitiveness through efficiency, inclusion, and performance remains under-theorized and empirically untested as a whole [31], [34], [32]. The problem this study addresses is therefore stated as follows: how is the literature on digital payment adoption and MSME competitiveness intellectually and thematically structured, and how do transaction efficiency, financial inclusion, and business performance jointly mediate the relationship between digital payment adoption and the competitiveness of Indonesian MSMEs? This formulation guides the bibliometric mapping and the integrative model developed in the subsequent sections [15], [33], [6].

Table 1. Summary of theoretical streams in the reviewed literature

Research stream	Theoretical basis/core construct	Main focus and contribution
Technology acceptance	TAM: perceived usefulness and ease of use	Establishes the core determinants of digital payment adoption among MSMEs
Extended acceptance	UTAUT, TRAM, religiosity, trust	Adds contextual and cultural constructs that improve explanatory power
Trust and risk	Trust, perceived risk, security	Identifies trust-building and risk mitigation as conditions for continued use
Resistance	Innovation Resistance Theory	Explains delay and rejection by traditional MSMEs through usage, value, and risk barriers
Financial inclusion	Fintech as a catalyst, P2P lending, digital footprint	Widens access to finance while raising stability and credit-performance concerns
Literacy and performance	Financial literacy: serial and mediated-moderated models	Converts access into business performance and sustainability

Research stream	Theoretical basis/core construct	Main focus and contribution
Competitiveness	Sustainable competitive advantage: institutional and local-wisdom factors	Positions business performance as the bridge from adoption to competitiveness

3. Method

This study adopts a Systematic Literature Review (SLR) design integrated with bibliometric analysis. The SLR component follows the PRISMA 2020 protocol to ensure that the identification, screening, and inclusion of studies are transparent, rule-based, and reproducible [36], while the bibliometric component follows the established performance analysis and science mapping framework to quantify the field's productivity and intellectual structure [37]. The two approaches are complementary: PRISMA disciplines the corpus boundary, whereas bibliometrics provides objective, quantitative evidence that mitigates the selection bias inherent in narrative reviews.

The data source is the Scopus database, selected for its broad interdisciplinary coverage, standardized indexing of authors, affiliations, and keywords, and reliable citation analytics, which are essential for performance metrics and science mapping [37]. The search was executed on the TITLE-ABS-KEY field with an export date of 29 June 2026. The query combined three concept blocks using Boolean operators: payment and fintech instruments (for example, digital payment, QRIS, e-money, mobile payment, and fintech), enterprise scope (MSME, SME, and micro-enterprise), and outcome or context terms (competitiveness, performance, financial inclusion, and Indonesia). The query returned 177 documents, which were exported in RIS format for analysis.

Explicit inclusion and exclusion criteria governed eligibility. Documents were included if they were written in English, published between 2018 and 2026, and substantively addressed digital payment or fintech adoption among MSMEs and their relationship to performance, competitiveness, or financial inclusion. Documents were excluded if they were errata or carried incomplete metadata that would compromise bibliometric computation. These criteria balance breadth, ensuring comprehensive coverage of the field, with precision, ensuring that retained records are analytically usable and thematically relevant.

Table 2. Inclusion and exclusion criteria

Criterion	Inclusion	Exclusion
Language	English	Other languages
Time span	2018–2026	Outside the range
Topical relevance	Digital payment or fintech adoption in MSMEs is linked to performance, competitiveness, or inclusion.	Not focused on MSMEs or digital payment

Criterion	Inclusion	Exclusion
Document type	Article, conference paper, book chapter, review	Erratum: conference review (for the thematic synthesis)
Metadata	Complete (authors, source, keywords, citations)	Incomplete metadata
Database	Scopus	Other databases

The selection process is reported using the PRISMA 2020 flow (Fig. 1) across four phases: identification, screening, eligibility, and inclusion [36]. Because a single database was searched, no cross-database duplication occurred. For the in-depth thematic synthesis, one erratum and seven conference reviews were excluded as non-primary documents, leaving 169 documents; for the bibliometric mapping, the full corpus of 177 documents was retained, in line with common practice that analyzes the entire retrieved set to preserve the integrity of co-occurrence and citation structures.

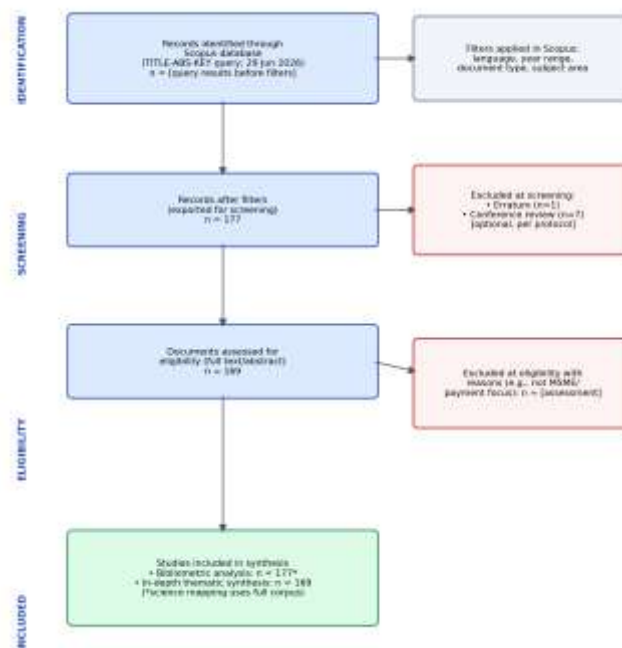


Fig. 1. PRISMA 2020 flow diagram (compiled from the Scopus export, 2026).

The first analytical layer is performance analysis, which characterizes the corpus's productivity and impact [37]. The indicators computed include the annual distribution of publications, the composition of document types, the most productive sources and authors, the geographic distribution of contributing countries, and citation-based metrics, including total citations, average citations per document, and the corpus h-index. These descriptive indicators address the first research question by revealing the field's trajectory, concentration, and influence structure.

The second analytical layer is science mapping, performed in VOSviewer to reveal the conceptual structure of the literature [38]. A keyword co-occurrence network was constructed using author and index keywords, with full counting and a minimum occurrence threshold of 5. To enhance validity, a thesaurus file normalized synonymous and variant terms (for example, MSME variants were merged, and several spellings of QRIS were unified). Clusters were identified using the association-strength algorithm implemented in VOSviewer and cross-validated with modularity-based community detection to confirm their robustness, with total link strength used to rank term centrality.

Table 3. Bibliometric and VOSviewer analysis parameters

Parameter	Setting
Database/export date	Scopus / 29 June 2026
Documents analyzed	177 (bibliometric mapping); 169 (thematic synthesis)
Analysis software	VOSviewer (science mapping)
Map type	Keyword co-occurrence (author and index keywords)
Counting method	Full counting
Minimum number of occurrences	5
Term normalization	Thesaurus (MSME variants and QRIS spellings unified)
Clustering	Association strength, cross-validated with modularity-based community detection
Centrality measure	Total link strength

Finally, the analytical workflow was designed for reproducibility, and its boundary conditions are acknowledged. The RIS export, the normalization thesaurus, and the analysis parameters are documented to enable map regeneration, and the proposed integrative model is derived by mapping the empirically identified clusters onto the study constructs [37], [36], [38]. The principal methodological assumptions are single-source coverage (Scopus), an English-language scope, and the descriptive-structural nature of bibliometrics, which describes the architecture of the field rather than appraising the methodological quality of each primary study; these assumptions are revisited as limitations in the concluding section.

4. Results and Discussion

Bibliometric Profile and Thematic Map of the Literature

The corpus comprises 177 documents published between 2018 and 2026, all in English, with a total of 1,620 citations, an average of 9.15 citations per document, and a corpus h-index of 21. Of all documents, 108 have been cited at least once, and 69 remain uncited, a pattern that is unsurprising given the large share of very recent publications in 2025 and 2026. This profile indicates a field in a phase of rapid growth.

The annual publication trend shows nearly exponential growth (Fig. 2). After a pioneering phase from 2018 to 2021, the number of publications jumped from 21 documents (2023) to 37 (2024) and peaked at 58 (2025); 28 documents had already appeared in 2026 up to the export date. The post-2022 surge aligns with the acceleration in QRIS adoption and the national MSME digitalization agenda.

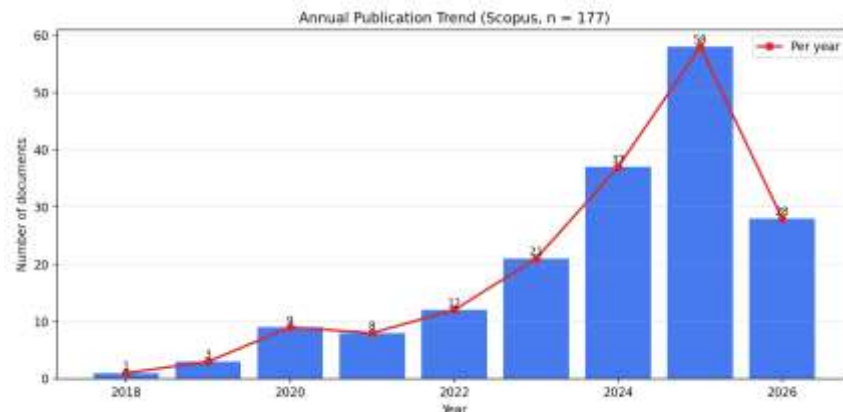


Fig. 2. Annual publication trend (Scopus, n = 177; 2026 partial).

In terms of composition, journal articles dominate the corpus (112 documents; 63.3%), followed by conference papers (42; 23.7%) and book chapters (14; 7.9%). Geographically, Indonesia is strikingly dominant, with 163 documents involving at least one Indonesia-affiliated author, far ahead of Malaysia (15). This concentration confirms that research on MSME digital payment adoption remains heavily Indonesia-centric and opens opportunities for cross-country comparative research.

The most influential documents in the corpus reflect the field's intellectual center of gravity. Work on fintech adoption drivers for MSME innovation is the most cited, followed by studies of fintech in small food businesses and of the contribution of Islamic fintech to sustainable development [31], [4], [5]. Other important theoretical references focus on the development of technology acceptance models and the impact of fintech on MSME performance [13], [15], [22].

In terms of author productivity, several names recur as leading contributors, particularly on the themes of financial literacy, fintech adoption, and MSME performance [32], [35], [27].

Publication outlets are dispersed across interdisciplinary journals spanning information systems, finance, and management, reflecting the cross-disciplinary character of the field [7], [23], [25].

Keyword co-occurrence mapping (Fig. 3) produces a network in which the strongest nodes are MSMEs, Indonesia, Fintech, E-money, and QRIS, with the strongest co-occurring pairs being Indonesia–MSMEs and Fintech–MSMEs. This structure confirms that the literature is

centered on the adoption of digital payment instruments by MSMEs in Indonesia and its links to performance and financial inclusion [1], [13], [6].

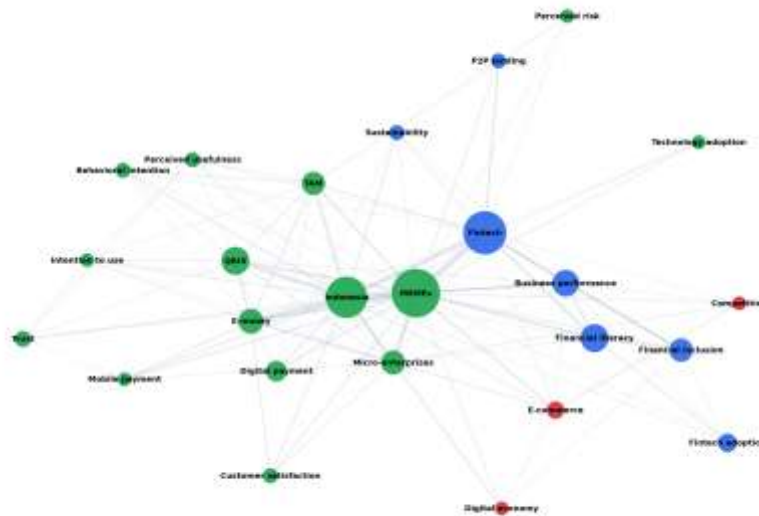


Fig. 3. Keyword co-occurrence network (node size = frequency; color = cluster).

Three thematic clusters form consistently and, notably, map neatly onto this study's constructs (Table 4): an adoption-and-acceptance cluster; a financial-inclusion, literacy, and business-performance cluster; and a digital-economy and competitiveness cluster [33], [15], [32]. The subsections that follow discuss each construct in turn.

Table 4. Thematic clusters from the co-occurrence mapping

Cluster	Thematic label	Core keywords (frequency)
Cluster 1	Digital payment adoption & acceptance	MSMEs (59), Indonesia (43), QRIS (20), E-money (16), TAM (14), Digital payment (11), Trust (7), Perceived usefulness (6), Mobile payment (5)
Cluster 2	Financial inclusion, literacy & performance	Fintech (47), Financial literacy (20), Financial inclusion (14), Business performance (13), Fintech adoption (9), P2P lending (6), Sustainability (6)
Cluster 3	Digital economy & competitiveness	E-commerce (8), Digital economy (5), Competition (5)

Digital Payment Adoption among MSMEs

The first cluster is the core of the literature and the densest in terms of co-occurrence. Digital payment adoption by MSMEs is predominantly explained through TAM, with perceived usefulness and perceived ease of use as the principal determinants [13], [14], [15]. This framework is widely adopted in the Indonesian MSME context because it parsimoniously explains decisions to adopt instruments such as QRIS and e-wallets [10], [8], [12].

The baseline model has been continually extended to become more contextual. Several studies add religiosity, trust, and technology readiness to the acceptance framework to capture the characteristics of local entrepreneurs [16], [9], [17]. These developments show that adoption is not purely rational-technical but is also shaped by social, cultural, and institutional-trust factors [10], [8], [4].

Trust occupies a central position in explaining adoption and continued use. Perceived benefits strongly influence customers' perceptions of QRIS and trust [8], [9], [12]. To sustain long-term use, small businesses require consistent trust-building mechanisms that dampen doubt and perceived risk [21], [10], [19].

Conversely, perceived risk and security are tangible barriers. Concerns about data and transaction security lower adoption intention, especially among entrepreneurs with limited digital literacy [19], [20], [18]. These barriers are multidimensional, encompassing technical, psychological, and infrastructural aspects, and therefore require comprehensive intervention [20], [7], [6].

The phenomenon of resistance has received particular attention. The development of Innovation Resistance Theory explains why traditional MSMEs reject or delay adopting digital payments even when the benefits are evident [18], [19], [34]. Such resistance is often rooted in cash-transaction habits and uncertainty about benefits, which can be overcome only through mentoring and the direct demonstration of value [19], [20], [21].

The COVID-19 pandemic acted as a significant accelerator of adoption. Restrictions on physical contact drove a massive shift in consumer and merchant behavior toward cashless payments [10], [7], [8]. This momentum demonstrates that external situational factors can accelerate adoption beyond the predictions of conventional acceptance models [15], [12], [1]. Overall, this cluster contains the seeds of the transaction-efficiency construct: the benefits users perceive arise largely from time savings, convenience, and transaction security [7], [11], [31]. Adoption is thus a starting point whose value is realized only when it produces operational efficiency that the business can actually feel [8], [22], [39].

The Role of Transaction Efficiency

Transaction efficiency refers to the reduction in costs, time, and friction in payments brought about by digitalization. From the perspective of merchants in a developing country, QRIS offers a compact cashless solution that lowers cash-handling costs and security risks [7], [8], [11]. It is this efficiency that makes digital payment attractive to micro-entrepreneurs who are sensitive to cost and time [10], [12], [9].

Reviews of the benefits of QR codes for MSMEs consistently identify time efficiency, convenience, and security as the most frequently reported advantages [11], [7], [1]. These benefits are not abstract; they directly affect daily operational smoothness and the reduction of recording errors [8], [39], [15].

Transaction efficiency contributes to operational productivity and business sustainability. Studies of MSME sustainability show that financial behavior, technology, and knowledge jointly sustain business continuity [39], [22], [4]. Within an Islamic-economy framework, the optimization of MSME financial performance is likewise linked to efficiency and open innovation [22], [17], [40].

At the customer experience level, transaction efficiency improves satisfaction and loyalty. The ease and speed of payment enhance consumers' positive perceptions of the business [8], [9], [10]. A seamless transaction experience, in turn, strengthens customer retention and business reputation in an increasingly competitive market [15], [33], [12].

Transaction efficiency is increasingly linked directly to competitiveness. The use of QRIS and e-wallets has been reported to enhance MSME competitiveness through wider reach and operational efficiency [41], [33], [15]. In this regard, efficiency functions as the operational bridge that translates adoption into a relative advantage over competitors [7], [11], [22].

In particular sectors such as the creative and culinary industries, payment efficiency strengthens the business value chain. Payment digitalization helps entrepreneurs manage cash flow and transactions more orderly [17], [39], [1]. This efficiency complements digital marketing strategies in boosting sales performance [15], [33], [4].

Nonetheless, the corpus reveals an important gap: transaction efficiency is still rarely operationalized as an explicit mediating construct. It appears more often as a perceived benefit within technology-acceptance frameworks than as a separately measured intervening variable [34], [32], [25]. Establishing efficiency as a mediator represents a promising theoretical opportunity for future research [31], [15], [22].

The Role of Financial Inclusion

The second cluster links fintech more broadly to financial inclusion and financial literacy. Fintech has repeatedly been positioned as a catalyst for MSME growth by widening access to formal financial services [1], [2], [3]. This widening of access is crucial for MSMEs that have historically been marginalized from the conventional financial system [6], [5], [26].

Payment digitalization creates a digital footprint that broadens financial inclusion, especially for informal MSMEs transitioning into the formal economy [6], [1], [42]. This transaction trail can serve as a basis for alternative credit scoring, thereby expanding access to financing without relying on conventional collateral [2], [26], [27].

Alternative financing schemes constitute a prominent pathway to inclusion. The adoption of P2P lending by MSMEs has been mapped in detail, including its success factors in Indonesia [26], [27], [30]. P2P lending is positioned as a financing alternative reaching segments that banks find difficult to serve [43], [30], [2].

This expansion of digital financing carries systemic consequences that must be managed. Studies examine the impact of the expansion of fintech lending on financial system stability [28],

[29], [30]. The interaction between bank stability and fintech also affects MSMEs' credit performance and access to credit [29], [44], [28].

Financial inclusion, however, does not stand alone. Financial literacy repeatedly emerges as a prerequisite for converting access into productive use [23], [24], [25]. Without adequate literacy, broadened access risks not being translated into financial decisions that benefit the business [32], [35], [25].

The inclusion dimension is also group- and region-specific. Among women-owned MSMEs, the development of financial literacy and the adoption of fintech jointly improve business performance [35], [32], [23]. Similar patterns are reported for both urban and rural MSMEs, underscoring the relevance of inclusion across contexts [45], [46], [24].

Islamic finance enriches the landscape of inclusion with value-based instruments. Islamic fintech is associated with achieving sustainable development goals and broadening inclusion for segments that prioritize sharia compliance [5], [40], [17]. Islamic financial institutions, in turn, face both challenges and opportunities to enhance competitiveness through digitalization [40], [43], [27].

Business Performance as the Bridge to Competitiveness

The business-performance construct serves as the intervening variable connecting adoption and its mechanisms to competitiveness. The combination of digital marketing, digital finance, and digital payment has been shown to improve the financial performance of Indonesian MSMEs [15], [22], [4]. Improved performance becomes an intermediate indicator before a competitive advantage truly materializes [33], [32], [23].

Recent studies articulate mediating pathways more explicitly. A serial mediation model links financial literacy, fintech adoption, and access to finance to MSME performance and sustainability [32], [25], [34]. A mediated-moderated framework shows that the relationship between determinants and performance is conditional on literacy and capability [25], [24], [35]. Financial literacy is a consistent driver of performance. Financial literacy, fintech, and financial inclusion jointly enhance MSME performance across regions [24], [23], [35]. Without literacy, technology adoption, and access to finance, risk is not optimally translated into performance [32], [25], [23].

Sustainable business performance is an increasingly salient orientation. Business sustainability is supported by financial behavior, technology, and knowledge [39], [32], [22]. MSME resilience is also strengthened by fintech services and a knowledge base, particularly in sharia-based business contexts [47], [40], [17].

At the end of the chain, competitiveness is influenced by institutional factors and digital strategy. The role of government and local wisdom strengthens the sustainable competitive advantage of creative industries [33], [41], [48]. Strengthening the financial-services sector and

technology adoption also shapes the competitive position of MSMEs in the digital economy [48], [29], [3].

Integrating the subsections, this study proposes that the adoption of digital payments does not directly enhance MSME competitiveness. Still, through the chain adoption, then transaction efficiency and financial inclusion, then business performance, and finally competitiveness (Fig. 4). Transaction efficiency represents the operational pathway. In contrast, financial inclusion represents the resource and financing pathway [31], [15], [32]. Both converge on business performance before materializing as sustainable competitiveness [33], [22], [25].

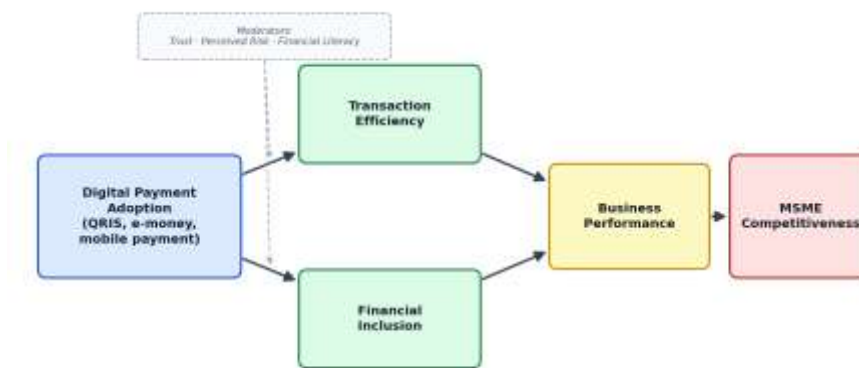


Fig. 4. Proposed integrative model: mediating pathways from digital payment adoption to MSME competitiveness.

From this framework, five empirically testable propositions are derived: (P1) digital payment adoption positively affects transaction efficiency; (P2) adoption positively affects financial inclusion, with financial literacy as a moderator; (P3) transaction efficiency and financial inclusion positively affect business performance; (P4) business performance mediates the effect of transaction efficiency and financial inclusion on competitiveness; and (P5) trust and perceived risk moderate the relationship between adoption and transaction efficiency.

5. Conclusion

The PRISMA-based systematic review and bibliometric analysis of 177 Scopus documents (2018–2026) reveal a rapidly growing, heavily Indonesia-centric field structured into three thematic clusters, with fintech-adoption work as the most influential and the MSMEs–fintech–QRIS triad as the conceptual core. Addressing the first two research questions, the performance analysis shows a productivity peak in 2024 to 2025, and the science mapping confirms the centrality of the MSMEs, fintech, and QRIS themes. Addressing the third research question, the central finding is that digital payment adoption indirectly affects MSME competitiveness through transaction efficiency and financial inclusion, which converge on business performance. Theoretically, the study contributes an integrative model and five testable propositions;

practically, it implies that interventions should be competitiveness-oriented, strengthen financial and digital literacy, leverage transaction data for alternative credit scoring, and address the resistance of traditional and informal micro-enterprises. The main limitations are the single-database (Scopus) and English-only scope and the descriptive-structural nature of bibliometrics, which describes the architecture of the field rather than appraising the quality of individual studies. Future research should therefore test the proposed model with primary, cross-country, and longitudinal data and develop a validated measure of transaction efficiency.

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