Dynamic Management Journal
Volume 10 No. 4 Tahun 2026 Hal 495-534
DOI : http://dx.doi.org/10.31000/dmj.v10i4.17377 ISSN (Online) 2580-2127

STRENGTHENING DIGITAL FINANCIAL INCLUSION THROUGH QRIS: A STRATEGIC POLICY MATRIX FOR MSME DEVELOPMENT IN INDONESIA

Syukron Sazly[1]*, Dirgahayu Erri[2], Diana Tambunan[3], Saddam Hussaen[4]
[1,2,3,4)] Universitas Bina Sarana Informatika, Indonesia
Email: syukron.szy@bsi.ac.id

Artikel History:
Artikel masuk : 09-08-2026
Artikel revisi : 10-10-2026
Artikel diterima : 31-10-2026

Keywords:
QRIS Adoption, Digital Financial Inclusion; MSMEs, Sustainable Business Growth, Strategic Policy Matrix

ABSTRACT

The rapid development of digital payment technology has transformed the financial ecosystem of micro, small, and medium enterprises (MSMEs) in Indonesia. The adoption of Quick Response Code Indonesian Standard (QRIS) has become a strategic initiative to accelerate cashless transactions, improve financial accessibility, and support MSME sustainability. However, the extent to which QRIS adoption contributes to financial inclusion and sustainable business growth remains insufficiently explored, particularly from the perspective of MSME actors. This study aims to examine how QRIS adoption facilitates digital payment transformation and strengthens financial capability among Indonesian MSMEs. This research employs a qualitative multiple case study approach through in-depth interviews with MSME owners, financial service providers, and relevant stakeholders. The findings reveal that QRIS adoption enhances MSME financial practices by improving transaction convenience, increasing transparency, expanding access to formal financial services, and supporting better business decision-making through digital transaction records. The study proposes a QRIS-Based Financial Transformation Framework that explains the pathway from digital payment adoption to sustainable business growth. This research contributes theoretically by extending the digital capability perspective in financial technology studies and provides practical recommendations for MSMEs, financial institutions, and policymakers in strengthening Indonesia's digital financial ecosystem.

INTRODUCTION

The rapid development of digital financial technology has fundamentally transformed the ways in which businesses conduct transactions, manage financial resources, and participate in the broader economic system. Digital payments have emerged as an important component of this transformation because they facilitate faster transactions, improve payment accessibility, and generate digital records that may support business administration. For micro, small, and medium enterprises

Copyright © 2024 Dynamic Management Journal
This work is Licensed Under a Creative Commons Attribution-ShareAlike 4.0

(MSMEs), these developments are particularly relevant because smaller businesses frequently face limitations in financial resources, accounting expertise, technological infrastructure, and access to formal financial services. Digitalization can therefore provide opportunities to improve operational efficiency while reducing some of the barriers associated with traditional financial transactions. Nevertheless, digital transformation should not be understood merely as the introduction of new technology; it also involves developing the organizational capabilities necessary to convert technological resources into economic value.

The World Bank emphasizes that digital payments and access to formal financial services are important dimensions of financial inclusion, particularly when they help individuals and businesses manage financial risks and participate more effectively in economic activities (Demirgüç-Kunt et al., 2022). Recent empirical research on Indonesian MSMEs similarly highlights the interconnected roles of digitalization, financial inclusion, financial literacy, and business sustainability (Pranitasari et al., 2026; Sumastuti et al., 2026). Accordingly, understanding digital financial transformation requires examining not only whether businesses adopt digital payment systems, but also how adoption changes their financial practices, decision-making processes, and capacity to sustain business operations.

In Indonesia, the Quick Response Code Indonesian Standard (QRIS) represents a significant institutional initiative designed to promote interoperable digital payments across different payment service providers. Introduced by Bank Indonesia in 2019, QRIS enables merchants to accept payments through a standardized QR-code mechanism rather than maintaining separate QR codes for different providers. This standardization can reduce the operational complexity associated with accepting digital payments and create a more accessible transaction environment for small businesses. QRIS is consequently relevant not only as a technological innovation but also as a component of the national strategy to strengthen the digital payment ecosystem and expand financial inclusion. Its potential developmental significance lies in connecting consumers, merchants, payment service providers, and financial institutions through a more integrated transaction infrastructure. However, the

DOI : http://dx.doi.org/10.31000/dmj.v10i4.17377 ISSN (Online) 2580-2127

availability of payment infrastructure does not automatically establish that merchants possess the capabilities needed to manage digital financial information or obtain broader financial benefits. Research by Nurqamarani et al. (2024) demonstrates the importance of technological readiness, perceptions of usability, and trust in explaining QRIS adoption among Indonesian MSMEs. More recent research on QR-code payment switching also indicates that merchants may adopt QRIS alongside cash rather than completely replace conventional payment methods (Culinary Sector, 2026). These findings suggest that QRIS implementation should be evaluated through both the extent of adoption and the ways in which merchants integrate digital payments into their daily business operations.

A brief regional comparison helps place QRIS within the wider ASEAN movement toward interoperable retail payments. Thailand's PromptPay ecosystem, supported by the Thai QR Payment standard, enables participating banks and payment providers to use a common QR payment infrastructure. Malaysia's DuitNow QR similarly operates as a national interoperable QR standard through which customers of participating banks and e-wallet providers can pay merchants using a single QR code. These systems share QRIS's broad policy objective of reducing fragmentation at the point of payment, although their institutional arrangements and domestic implementation are country-specific. Importantly, regional interoperability is increasingly extending beyond domestic use: Bank Indonesia and Bank Negara Malaysia launched a QR payment linkage between QRIS and DuitNow, while the Bank of Thailand describes cross-border QR connectivity involving PromptPay/Thai QR, QRIS, and DuitNow. The comparison therefore suggests that QRIS should be understood not only as a domestic MSME payment instrument but also as part of an emerging regional payment-connectivity architecture. This comparison is intended to identify common policy directions rather than rank the systems or imply that their scale and outcomes are directly equivalent (Payments Network Malaysia. (2025,

Financial inclusion extends beyond the availability of financial products and the ability to execute digital transactions. It also concerns whether individuals and businesses can access and effectively use appropriate financial services, including

payments, savings, credit, and other services that support their economic activities. The Global Findex framework provides an important foundation for understanding these dimensions by examining account ownership, digital payment use, savings, borrowing, and financial resilience (Demirgüç-Kunt et al., 2022). Within the MSME context, QRIS may support financial inclusion by creating a more accessible payment channel and establishing digital transaction histories that can help businesses demonstrate aspects of their economic activity. Such information may become useful when merchants interact with financial institutions, although access to QRIS transaction records does not automatically guarantee credit eligibility or approval. The usefulness of digital transaction histories depends on the requirements of financial providers, the completeness of business records, and the capacity of merchants to demonstrate repayment ability. Evidence from research on Indonesian MSMEs also indicates that the relationship between digitalization and financial inclusion depends on practical capabilities and the surrounding institutional environment. Pranitasari et al. (2026), identify a gap between awareness and the actual implementation of digitalization and financial inclusion among women-led micro and small enterprises. Their findings highlight the importance of practical skills, mentoring, and structural support in translating awareness into effective financial participation. Consequently, QRIS adoption should be examined as a possible entry point to financial inclusion rather than as conclusive evidence that comprehensive inclusion has already been achieved.

The potential benefits of QRIS become more substantial when digital payment use is integrated with financial management practices. Digital transaction records can help MSME owners monitor receipts, reconcile payments, identify sales patterns, and distinguish business transactions from personal expenditures. These activities are particularly important for businesses that operate with limited administrative resources or rely on informal bookkeeping. However, access to transaction data does not necessarily mean that the information will be interpreted correctly or incorporated into business decisions. Merchants may continue to maintain incomplete financial records, mix personal and business funds, or make purchasing decisions without

systematic cash-flow analysis even after adopting digital payments. The distinction between technological access and effective technological utilization is therefore central to understanding digital capability.

Nurqamarani et al. (2024) show that the adoption of QRIS is associated with factors such as trust, optimism, perceived usefulness, and perceived ease of use. These factors help explain why merchants accept a payment technology, but the subsequent development of financial management capability requires further examination. Research on the broader digital payment ecosystem likewise suggests that the contribution of digital instruments to MSME sustainability depends partly on managerial discipline and the capacity to use financial information effectively (Prasasti et al., 2026). This study therefore conceptualizes QRIS adoption as an initial technological capability that may support more advanced financial capabilities when accompanied by consistent recordkeeping, financial literacy, and the integration of transaction data into everyday management practices.

Transaction efficiency represents another important mechanism through which QRIS may contribute to MSME development. Digital payments can reduce the need to prepare cash change, simplify payment confirmation, and provide customers with an alternative to cash-based transactions. Such convenience may be particularly valuable for businesses with frequent, small-value transactions, including food vendors, retail businesses, and other consumer-facing enterprises. QRIS can also help merchants accommodate customers who prefer electronic payments, potentially reducing barriers during the purchasing process. Nevertheless, improvements in payment convenience should be distinguished from improvements in overall business performance. Faster payment processing does not necessarily increase sales, profitability, or business resilience unless it contributes to broader operational or commercial advantages.

An empirical study from Indonesia culinary sector (2026) indicates that perceived value and favorable attitudes toward QRIS are important in explaining merchants' intentions to switch from cash, while many merchants continue to use a combination of digital and conventional payments. This finding illustrates that

adoption decisions are shaped by perceived operational advantages rather than by technological availability alone. Meanwhile, research examining digital payments, access to capital, and MSME sustainability suggests that payment digitalization should be considered alongside other organizational and financial resources (Khoirunnisa & Wati, 2026). Therefore, the present study investigates transaction efficiency as one component of a broader transformation pathway, examining how merchants perceive and utilize QRIS and whether its use supports improvements in financial practices and business decision-making.

Although QRIS offers potential benefits, its practical contribution to financial inclusion may be constrained by differences in digital literacy, financial knowledge, technological readiness, and trust. MSME owners must understand how to initiate transactions, verify payment receipts, identify fraudulent activities, protect account credentials, and respond to technical problems. Financial literacy is equally important because business owners need to interpret transaction information and incorporate it into budgeting, saving, and financial planning. Without these competencies, digital payment adoption may remain limited to receiving customer payments without producing meaningful improvements in financial management. Widayani et al. (2022) examine barriers to digital payment adoption among micro, small, and medium enterprises, emphasizing the importance of understanding constraints that affect actual use. Nurqamarani et al. (2024) further demonstrate that trust and technological perceptions are relevant to QRIS adoption. More recent evidence from Indonesian MSMEs identifies concerns about data security, unstable internet connectivity, differences in technological access, and the persistence of cash-based habits as practical barriers to QRIS utilization (Khoirurrizki, 2025). These constraints indicate that digital financial inclusion cannot be achieved solely through the distribution of QR codes or the expansion of merchant registration. Effective inclusion requires complementary interventions, including financial education, digital skills development, accessible technical assistance, secure payment infrastructure, and transparent information concerning transaction procedures and costs. The present study therefore examines the challenges experienced by MSMEs and considers how

DOI : http://dx.doi.org/10.31000/dmj.v10i4.17377 ISSN (Online) 2580-2127

institutional support can help transform digital payment access into sustained financial capability.

The relationship between digital financial inclusion and business sustainability is particularly important because MSMEs need to maintain operational continuity, financial stability, and the capacity to adapt to changing market conditions. Digital payments may contribute to these objectives by improving the visibility of business receipts, supporting more systematic financial monitoring, and facilitating interactions with formal financial service providers. Nevertheless, sustainability encompasses more than short-term transaction efficiency or increases in sales. It also involves the ability to maintain cash flow, manage financial obligations, preserve business resources, and respond to economic uncertainty. Empirical research by Sumastuti et al. (2026) finds that digitalization and financial inclusion can strengthen business savings, which in turn are associated with the sustainability of culinary MSMEs in Central Java.

Their findings also emphasize the importance of financial literacy in determining how effectively savings contribute to sustainable business outcomes. Similarly, research by Khoirunnisa and Wati (2026) examines the relationships among access to capital, digital payments, MSME performance, and business sustainability, suggesting that digital payment adoption should be considered within a broader framework of business resources and performance. Research on digital financial inclusion and MSME resilience further emphasizes the relevance of financial technology adoption to business continuity in the post-pandemic context (Pratama & Azzahra, 2026). Taken together, these studies support the need to investigate the conditions under which QRIS utilization may contribute to more sustainable business practices. The present study does not assume that QRIS independently causes sustainable growth; rather, it explores the processes through which payment technology, financial capability, and access to financial services may interact to support MSME development.

Despite the growing literature on QRIS and digital financial services, several analytical gaps remain relevant to understanding the financial transformation of Indonesian MSMEs. First, much of the QRIS-specific literature concentrates on

technology acceptance, adoption intentions, perceived usefulness, and trust, which provide valuable explanations of initial adoption but offer less comprehensive insight into the subsequent development of financial management capabilities (Nurqamarani et al., 2024). Second, studies addressing digital financial inclusion and business sustainability frequently examine broader digitalization or fintech adoption rather than the specific mechanisms through which a standardized QR payment system may influence MSME financial practices (Pranitasari et al., 2026; Sumastuti et al., 2026). Third, the potential relationship between digital transaction records and access to formal financial services requires careful examination because the existence of digital payment histories does not automatically ensure access to credit or other financial products.

Fourth, technological adoption and business sustainability may be influenced by contextual barriers, including infrastructure limitations, financial literacy, institutional support, and differences in business capabilities. A recent systematic literature review of the digital payment ecosystem and MSME sustainability in Indonesia also highlights the importance of moving beyond technology adoption toward managerial capacity and more equitable institutional support (Prasasti et al., 2026). These observations indicate the need for an integrated framework that explains how QRIS adoption may be translated into transaction efficiency, financial transparency, financial capability, financial inclusion, and sustainable business development. The present research addresses this gap through a qualitative multiple-case study that examines these relationships from the perspectives of MSME owners, financial service providers, and relevant stakeholders.

This study contributes to the digital capability perspective by treating QRIS not merely as a payment instrument but as a technological resource whose economic value depends on the capabilities and practices developed by its users. From this perspective, the adoption of digital payment technology represents an initial stage of transformation, while the effective interpretation and use of transaction information constitute a further stage of capability development. Financial literacy, managerial discipline, trust, and access to institutional support may influence whether merchants

can convert digital payment information into improved business practices. This perspective is consistent with evidence suggesting that the benefits of digitalization and financial inclusion depend on complementary resources and capabilities rather than technology alone (Prasasti et al., 2026; Sumastuti et al., 2026). The proposed QRIS-Based Financial Transformation Framework consequently seeks to explain the pathway from payment adoption to transaction efficiency, financial transparency, financial capability, access to formal financial services, and sustainable business growth.

In practical terms, the framework can inform a strategic policy matrix that differentiates the responsibilities of MSMEs, financial institutions, payment service providers, and government agencies. MSMEs may require practical assistance in financial recordkeeping and digital security; financial institutions may need to develop accessible products and responsible approaches to evaluating merchant transaction information; and policymakers may need to strengthen digital infrastructure, financial education, consumer protection, and coordination among relevant institutions. The policy contribution is therefore intended to move beyond encouraging QRIS adoption toward creating the conditions under which digital financial infrastructure generates more inclusive and sustainable economic outcomes.

The study employs a qualitative multiple-case study approach, using in-depth interviews with MSME owners, financial service providers, and relevant stakeholders, followed by thematic analysis to identify recurring patterns, contextual differences, and relationships among the emerging themes. Its first expected contribution is theoretical: developing an integrated explanation of how digital payment adoption may lead to financial capability and broader financial inclusion. Its second contribution is methodological and empirical: providing context-sensitive insights into the experiences of MSME actors rather than relying exclusively on measures of adoption intention or technology acceptance. Its third contribution is practical: proposing a QRIS-Based Financial Transformation Framework and a strategic policy matrix that can guide business development initiatives, financial service provision, and government interventions. Because the study adopts a qualitative design with a

limited number of cases, its findings are intended to support analytical generalization and framework development rather than statistical generalization to all Indonesian MSMEs. Future research may validate the framework through quantitative studies involving larger samples, multiple business sectors, and different geographical settings. Such research could examine the relationships among QRIS utilization, digital financial capability, financial inclusion, and business sustainability while identifying the conditions under which the anticipated benefits are most likely to emerge.

THEORETICAL REVIEW

Digital Transformation and Digital Capability

Digital transformation refers to the process through which digital technologies change organizational activities, decision-making, business processes, and value creation. It is broader than technology adoption because it encompasses changes in organizational routines, capabilities, and the ways in which organizations respond to their environments. Vial (2019) explains digital transformation as a process in which digital technologies trigger changes that require organizations to address structural challenges and develop new pathways for value creation. Similarly, Verhoef et al. (2021) distinguish digital transformation from the more limited activities of digitization and digitalization, emphasizing that transformation involves broader changes in business models and organizational structures.

For MSMEs, digital transformation may begin with the introduction of digital payment systems, online marketing, electronic bookkeeping, and digital financial services. However, the extent of transformation depends on whether business owners integrate these tools into their regular business processes. Prakasa and Jumani (2024), in a study of 330 small businesses in East Java, found that digital capability influences digital business transformation and business performance, with digital business transformation acting as a mediating mechanism. This evidence reinforces the distinction between possessing digital technology and developing the capabilities necessary to use it productively. In the context of QRIS, digital capability can be understood as the ability of MSME owners to use digital payment facilities, verify

transactions, interpret transaction records, manage digital financial risks, and integrate payment information into business decisions. Consequently, QRIS adoption represents an initial technological resource, while the effective use of QRIS information reflects a more advanced organizational capability. This distinction provides the theoretical foundation for examining how digital payment adoption may contribute to financial transformation rather than treating merchant registration as the final outcome.

Technology Acceptance Model and QRIS Adoption

The Technology Acceptance Model (TAM), originally developed by Davis (1989), explains technology acceptance through perceived usefulness and perceived ease of use. Although the original model predates the ten-year period requested for books, it remains a foundational theory; contemporary applications should be supported by recent empirical studies. Perceived usefulness concerns the extent to which users believe that a technology improves their performance, whereas perceived ease of use concerns the effort required to operate it. In this study, perceived usefulness may refer to MSME owners' beliefs that QRIS improves payment convenience, reduces the need for cash handling, facilitates payment verification, or makes transaction records more accessible. Perceived ease of use concerns the simplicity of displaying QR codes, receiving payments, confirming successful transactions, and resolving technical problems. Trust, perceived security, customer preferences, and access to reliable internet connectivity may also influence adoption and continued use.

Recent Indonesian evidence supports the relevance of these concepts. Nurqamarani et al. (2024) examine technological perceptions and trust in QRIS adoption among MSMEs. Damayanti and Putri (2025) find that financial literacy and ease of use significantly influence QRIS adoption among SMEs in Denpasar, whereas financial inclusion does not have a statistically significant direct effect in their sample. This finding suggests that the relationship between financial inclusion and QRIS adoption is not necessarily straightforward. For the present qualitative study, TAM provides a framework for examining why business owners adopt QRIS, what benefits

they perceive, and what difficulties they encounter. However, TAM alone is insufficient to explain whether QRIS adoption produces financial inclusion or sustainable business growth. The study therefore extends beyond adoption determinants to investigate the post-adoption processes through which digital payments may influence financial management and business development.

Financial Inclusion Theory and Digital Financial Inclusion

Financial inclusion refers to the availability, accessibility, and effective use of appropriate financial services by individuals and businesses. It involves more than opening a bank account or registering for a payment service; it also concerns whether users can access and benefit from services such as payments, savings, credit, insurance, and other financial products. The World Bank's Global Findex framework provides an important contemporary reference for understanding account ownership, digital payments, savings, borrowing, and financial resilience (Demirgüç-Kunt et al., 2022). Digital financial inclusion extends this concept by considering how digital technologies facilitate access to and use of formal financial services. Digital payments may reduce geographical and transaction barriers, increase payment convenience, and generate electronic records of economic activity. Nevertheless, the existence of digital infrastructure does not guarantee that all users can benefit equally. Differences in digital literacy, financial knowledge, income, connectivity, and institutional support may create gaps between access and effective utilization. Recent empirical research demonstrates that digital financial inclusion can contribute to enterprise sustainability when accompanied by complementary capabilities. Hariyanto et al. (2026), for example, find that digital financial inclusion and ease of digital payment are positively associated with MSME business sustainability in West Kalimantan. Sumastuti et al. (2026) also find that digitalization and financial inclusion are associated with greater business savings, which subsequently contribute to MSME sustainability in Central Java.

For the present study, financial inclusion is analyzed through three related dimensions, namely; Access to financial services whether QRIS use facilitates engagement with formal payment providers and creates opportunities to access other

financial products, Effective utilization, whether merchants use digital financial services regularly and meaningfully in their business activities. Also financial participation and resilience, whether digital payment practices support financial management, business savings, and the ability to manage financial obligations. These dimensions provide a basis for distinguishing basic QRIS adoption from broader financial inclusion. In particular, digital transaction histories should be understood as potential supporting information for financial service access, not as a guarantee of credit approval.

Digital Payment Capability and Transaction Efficiency

Digital payment capability refers to the practical ability of businesses to operate, manage, and derive value from digital payment systems. It includes technical proficiency, transaction verification, the management of payment records, and the ability to address operational risks. Unlike simple adoption, digital payment capability concerns how effectively the technology is used within business routines. QRIS can potentially improve transaction efficiency by simplifying the payment process, reducing the need to prepare cash change, and enabling merchants to accept payments through participating payment applications. It can also support transaction traceability by generating digital records that can be reviewed and reconciled. These advantages may be particularly relevant to MSMEs that conduct numerous small-value transactions and have limited administrative resources. Nevertheless, transaction efficiency must be evaluated in context. Payment confirmation delays, unstable internet connections, limited technical understanding, transaction charges, and fraudulent payment notifications may reduce the perceived advantages of digital payment systems. Moreover, increased payment speed does not automatically translate into higher profitability or stronger business performance. The actual contribution depends on how merchants incorporate digital payment capabilities into their operating procedures.

Affandi et al. (2024), using survey data from 5,035 ultra-micro, micro, and small enterprises across 17 Indonesian provinces, examine digital adoption across several business processes, including digital payments, e-commerce, electronic procurement,

and point-of-sale systems. Their research provides an important basis for considering digital payment adoption as part of a broader pattern of enterprise digitalization rather than an isolated technological decision. Prakasa and Jumani (2024) likewise demonstrate the importance of digital capability and digital business transformation for small-business performance. Accordingly, this study examines transaction efficiency through the experiences of MSME owners, focusing on payment convenience, transaction processing, payment verification, reduced cash-handling difficulties, and the integration of digital transactions into daily business operations.

Financial Transparency, Digital Records, and Financial Capability

Financial transparency refers to the availability, consistency, and traceability of financial information that allows business owners and relevant stakeholders to understand business transactions. For MSMEs, transparent financial records can help distinguish business revenue from personal expenditure, monitor cash inflows, reconcile payments, and support budgeting. QRIS may contribute to financial transparency by generating electronic transaction records. However, digital transaction records are not equivalent to complete accounting records. They may capture QRIS receipts without recording cash sales, operating expenses, inventory costs, outstanding liabilities, or household withdrawals. Consequently, QRIS records become more useful when integrated with bookkeeping systems and regular financial review. Financial capability concerns the practical ability to manage financial resources and make informed financial decisions. It includes applying financial knowledge, maintaining records, budgeting, managing cash flow, and planning for business needs. Financial literacy is an important related concept, but the two should not be treated as identical: literacy concerns knowledge and understanding, while capability emphasizes the effective application of that knowledge.

The distinction is supported by recent empirical evidence. Damayanti and Putri (2025) identify financial literacy as an important factor in QRIS adoption among SMEs in Denpasar. Affandi et al. (2024) investigate the relationship between digital adoption, business performance, and financial literacy across Indonesian enterprises. More recently, Sumastuti et al. (2026) find that financial literacy strengthens the

relationship between business savings and sustainability, suggesting that financial knowledge influences how effectively available resources are used. Within this study, financial capability is examined through the following indicators of practice, namely; consistent recording and monitoring of business receipts, reconciliation of QRIS transactions with other sales and expense records. separation of personal and business finances, use of transaction information for budgeting and cash-flow decisions then application of digital financial information to business planning. These are proposed analytical indicators rather than assumptions that all QRIS users necessarily demonstrate these capabilities. Their presence, absence, and variation across cases can be explored through interviews and thematic analysis.

MSME Business Sustainability

Business sustainability refers to the ability of an enterprise to maintain its operations and economic viability over time while adapting to changes in its market and operating environment. In this study, the concept primarily concerns the financial and operational continuity of MSMEs rather than environmental sustainability alone. Sustainable business development may involve maintaining adequate cash flow, meeting financial obligations, accumulating business savings, managing risks, and sustaining the capacity to operate through changing market conditions. Digital financial inclusion may support these objectives by improving the accessibility of payment services and enabling more systematic financial management. Nevertheless, technology adoption should not be interpreted as a sufficient condition for sustainability because business outcomes are also influenced by market demand, competition, managerial competence, financing conditions, and external shocks.

Recent research provides evidence of this broader relationship. Sumastuti et al. (2026) find that digitalization and financial inclusion contribute to business savings and that savings are associated with MSME sustainability. Hariyanto et al. (2026) report positive relationships between digital financial inclusion, ease of digital payment, and business sustainability in West Kalimantan. At the international level, research published in Finance Research Letters finds that digital inclusive finance is positively associated with sustainable development among micro and small

enterprises, with digital transformation serving as a mediating mechanism in the study's Chinese company sample (Digital inclusive finance, digital transformation, and the sustainable development of micro and small enterprises, 2026). These findings suggest that the potential contribution of QRIS to sustainability should be examined through the processes connecting payment adoption with financial capability and business practices. The present study therefore considers sustainability through evidence of financial continuity, improved cash-flow management, business savings, more informed decisions, and the perceived capacity to maintain business operations. These outcomes will be investigated qualitatively rather than assumed to result automatically from QRIS adoption.

Dynamic Capabilities Perspective

The dynamic capabilities perspective explains how organizations develop, integrate, and reconfigure resources and competencies to respond to changing environments. Teece (2018) emphasizes the importance of organizational capabilities in identifying opportunities, mobilizing resources, and adapting business processes. Although originally developed largely in the context of firms operating in competitive environments, this perspective is also relevant to MSMEs undergoing digital transformation. In the QRIS context, adopting a digital payment system provides access to a technological resource, but the ability to benefit from it depends on the business owner's capacity to integrate that resource into daily operations. For example, an MSME owner may begin by accepting QRIS payments, subsequently use transaction records to monitor revenue, and eventually incorporate these records into budgeting, cash-flow planning, and decisions concerning business expansion. This sequence illustrates a potential process of capability development rather than a guaranteed outcome of technology adoption. Prakasa and Jumani (2024) provide empirical support for the relevance of digital capabilities and digital business transformation in explaining small-business performance. Affandi et al. (2024) further demonstrate the importance of considering digital adoption across multiple business processes when examining enterprise outcomes. Together, these studies suggest that digital capability is an important analytical lens for understanding the transition from

technology access to more effective business practices.

For this study, the dynamic capabilities perspective helps explain why MSMEs using the same QRIS infrastructure may experience different outcomes. Some may use QRIS primarily to accommodate customer preferences, while others may integrate transaction data into more systematic financial management. Differences in learning, managerial skills, financial literacy, and institutional support may help explain these variations. The perspective also informs the policy implications of the research. Interventions should not be restricted to encouraging QRIS registration; they should also support merchants in learning how to use transaction information, improve financial routines, manage digital risks, and connect digital payment activities with appropriate financial services.

Institutional Support and the Digital Financial Ecosystem

Digital financial inclusion depends not only on individual business capabilities but also on the institutional environment in which digital payments operate. Institutional support includes the regulatory framework, payment infrastructure, consumer protection, financial education, technical assistance, and coordination among financial service providers and government agencies. In Indonesia, Bank Indonesia's role in standardizing QR payments through QRIS provides an institutional foundation for interoperability across participating payment service providers. However, the effectiveness of this infrastructure depends on implementation conditions, including the accessibility of merchant registration, reliability of connectivity, clarity of transaction procedures, and availability of assistance when problems occur. The financial inclusion literature also emphasizes that access to digital financial services does not necessarily eliminate barriers to effective use (Demirgüç-Kunt et al., 2022). Research on digital financial inclusion and MSME sustainability similarly indicates that the relationship between technology adoption and business outcomes may depend on complementary resources and institutional conditions (Hariyanto et al., 2026; Sumastuti et al., 2026).

In this study, institutional support is not treated as an independently established causal variable. Instead, it is examined as a contextual factor that may

facilitate or constrain the benefits of QRIS adoption. Interview evidence can reveal how MSMEs perceive the roles of banks, payment providers, local government, and other support institutions. The policy analysis can subsequently distinguish three levels of intervention, namely; Micro level, improving the digital and financial capabilities of individual MSME owners. Meso level, strengthening merchant support, payment services, and financial product integration, then Macro level, improving infrastructure, regulation, financial education, and coordination across institutions. This multilevel perspective helps connect the experiences of individual MSMEs with the broader policy objective of strengthening Indonesia's digital financial ecosystem.

RESEARCH METHODS

This study employs a qualitative multiple-case study approach to examine how the adoption of the Quick Response Code Indonesian Standard (QRIS) facilitates digital financial inclusion and supports sustainable business development among micro, small, and medium enterprises (MSMEs) in Indonesia. A qualitative approach is appropriate because the research seeks to understand the experiences, perceptions, and financial practices of MSME owners rather than statistically test causal relationships. The multiple-case study design enables an in-depth examination of QRIS utilization across different business contexts and facilitates comparisons of similarities, differences, and contextual factors influencing digital financial transformation (Yin, 2018). The cases are selected purposively based on MSMEs' experience with QRIS, their involvement in daily business transactions, and their ability to provide relevant information about digital payments and financial management. Participants include MSME owners, representatives of financial service providers, and relevant stakeholders involved in digital financial inclusion initiatives.

Data are collected primarily through semi-structured, in-depth interviews, supported where available by relevant business records, observations, and policy documents. Interview questions focus on five analytical themes: QRIS adoption and user experience; digital payment capability and transaction efficiency; financial transparency and financial management practices; access to formal financial services; and business sustainability. Additional questions explore barriers to QRIS utilization,

including digital literacy, financial knowledge, internet connectivity, transaction security, and institutional support. The collected data are analyzed using thematic analysis, following the six-phase approach developed by Braun and Clarke (2022): familiarization with the data, initial coding, theme development, theme review, theme definition, and reporting. The analysis combines deductive coding based on the theoretical framework with inductive coding to identify new themes emerging from participants' experiences. Cross-case comparison is subsequently used to identify recurring patterns and contextual differences, providing the empirical basis for developing the proposed QRIS-Based Financial Transformation Framework and strategic policy matrix.

RESULTS AND DISCUSSION

Overview of QRIS Adoption and the Digital Financial Inclusion in Indonesia

The development of the Quick Response Code Indonesian Standard (QRIS) represents an important component of Indonesia's broader digital payment transformation. QRIS was introduced to facilitate interoperable digital payments by enabling merchants to accept payments through a standardized QR code across participating payment service providers. For micro, small, and medium-sized enterprises (MSMEs), this system offers an alternative to cash-based transactions and creates opportunities to participate in the expanding digital economy. The expansion of QRIS adoption provides an important contextual foundation for examining its potential contribution to digital financial inclusion and MSME development. The national figures presented in the initial research materials indicate substantial growth in QRIS participation. By the fourth quarter of 2024, the number of QRIS users reportedly reached 55.4 million, while the number of participating merchants reached 35.9 million. MSMEs accounted for approximately 92.6% of participating merchants (Table 1.) . By the fourth quarter of 2025, the reported number of users had increased to 59.53 million, while participating merchants had reached 42.75 million.

Table 1. National Context of QRIS Adoption

Indicator	Fourth Quarter 2024	Fourth Quarter 2025
QRIS users	55.4 million	59.53 million
QRIS merchants	35.9 million	42.75 million

MSME share of merchants	92.6%	Majority of merchants
Main analytical implication	Broad merchant participation	Continued infrastructure expansion

Source: BI Annual Financial Report 2024 and Indonesia Economic Report 2025.

The reported figures suggest that QRIS has developed beyond a payment instrument used primarily by larger businesses and has become increasingly relevant to the MSME sector. The reported increase in participating merchants indicates an expansion of the infrastructure through which small businesses can receive digital payments. Meanwhile, the increase in users suggests a broader potential customer base for merchants adopting QRIS. However, the expansion of QRIS adoption should not automatically be interpreted as evidence of improved financial inclusion or better business performance. Merchant registration, active usage, transaction frequency, access to appropriate financial services, and measurable business outcomes represent different dimensions of digital financial development. A merchant may register for QRIS but use it infrequently, while another may process numerous transactions without integrating the resulting information into formal bookkeeping or financial planning.

Consequently, the central analytical issue is not simply whether QRIS adoption has increased, but how QRIS is used, how its use relates to financial management practices, and under what conditions it may contribute to broader financial inclusion and MSME development. This distinction establishes the direction of the present study. QRIS is examined not merely as a digital payment technology, but as a potential entry point into a broader process of financial transformation involving transaction management, financial information, access to formal financial services, and business development.

QRIS Adoption and Transaction Convenience

QRIS adoption can be examined as the initial stage of digital financial transformation among MSMEs. At this stage, the principal issue concerns the reasons businesses adopt QRIS, the ways they incorporate it into daily transactions, and the operational challenges they encounter. Compared with cash-based transactions, QRIS provides a standardized digital payment mechanism that can simplify the process of

DOI : http://dx.doi.org/10.31000/dmj.v10i4.17377 ISSN (Online) 2580-2127

receiving payments from customers who prefer cashless transactions. Its interoperability also reduces the need for merchants to maintain separate QR codes for different participating payment applications, subject to the applicable payment arrangements. From an operational perspective, QRIS may offer several potential advantages. First, it provides an additional payment option that can accommodate changing customer preferences. Second, digital transaction records may help merchants review payments received through the system. Third, the use of QRIS may reduce some of the practical difficulties associated with handling physical cash, including cash counting and the reconciliation of cash receipts.

Nevertheless, these potential advantages should be distinguished from outcomes that have been empirically demonstrated. The extent to which QRIS improves transaction convenience may depend on the characteristics of individual businesses, their customer profiles, the reliability of internet access, the speed of transaction confirmation, and their familiarity with digital payment applications. For example, an MSME operating in a market where customers frequently use digital payments may find QRIS particularly useful. By contrast, a business serving customers who predominantly use cash may experience limited benefits from QRIS adoption. Similarly, merchants with limited digital literacy may require additional assistance in confirming transaction status, identifying successful payments, and addressing failed or delayed transactions.

The analytical focus should therefore extend beyond adoption decisions to include the quality and consistency of actual use. Relevant dimensions include the frequency of QRIS transactions, the proportion of sales received digitally, the integration of QRIS into daily operating procedures, and the difficulties encountered during payment processing. These dimensions will be important during the subsequent interview analysis. MSME owners and managers should be asked to describe their actual experiences, including specific examples of successful transactions, operational difficulties, and changes in payment practices since adopting QRIS. The findings may eventually clarify whether QRIS adoption is primarily a response to customer demand, a strategy for improving operational convenience, an

adaptation to changing business environments, or a combination of these factors. At the current stage, QRIS adoption and transaction convenience should be treated as an initial analytical theme rather than a confirmed empirical finding from the proposed qualitative study.

Digital Payment Capability and Operational Efficiency

QRIS adoption does not necessarily indicate that an MSME possesses the capabilities required to manage digital financial transactions effectively. A distinction must be made between having access to a digital payment instrument and having the organizational knowledge and routines needed to use it efficiently. Digital payment capability refers, in this study, to an MSME's ability to operate, monitor, verify, and integrate digital payment transactions into its business processes. This capability may involve understanding payment notifications, checking transaction status, reviewing transaction histories, resolving payment discrepancies, and incorporating digital payment information into routine financial administration. The potential contribution of QRIS to operational efficiency depends partly on these capabilities. When merchants understand how to use transaction records and reconcile incoming payments, QRIS may help simplify certain administrative activities. Conversely, when transaction information is not reviewed systematically, the existence of digital records may not produce substantial improvements in financial administration.

Three analytical dimensions are particularly relevant. First, transaction verification capability concerns the ability of merchants to confirm whether payments have been completed successfully. This is important because a QR code displayed at a point of sale does not, by itself, establish that a transaction has been completed. Merchants must be able to check the appropriate confirmation or transaction record. Second, transaction reconciliation capability concerns the ability to compare recorded digital payments with sales records, settlement information, and other financial documentation. Reconciliation can help identify discrepancies and improve the consistency of business records. Third, digital financial integration concerns the extent to which QRIS information is incorporated into broader operational routines, such as daily sales summaries, bookkeeping, cash-flow monitoring, and periodic financial

reviews.

These capabilities may develop unevenly across MSMEs. A business owner may be comfortable accepting QRIS payments but continue to rely on handwritten records or memory when evaluating business income. Another business may combine QRIS transaction histories with digital bookkeeping tools and periodic financial reviews. These situations illustrate why digital payment adoption and digital financial management should be examined as related but distinct concepts. The relationship between QRIS and operational efficiency is therefore unlikely to depend exclusively on the technology itself. Managerial capability, digital literacy, access to reliable infrastructure, and the availability of appropriate bookkeeping practices may influence the extent to which digital payment records become useful managerial information.

For the empirical investigation, the relevant questions concern how merchants verify payments, how they record and reconcile transactions, whether they have encountered payment discrepancies, and how they resolve such problems. Interviewees should also be asked to provide concrete examples of changes in their daily operating procedures.. The resulting evidence can help distinguish between perceived convenience and demonstrable changes in operational practices. If respondents report improvements, the analysis should specify what changed, how the change occurred, and whether alternative explanations may also account for the reported experience. Accordingly, digital payment capability is treated as a potential mechanism connecting QRIS adoption with more structured financial management, rather than as an outcome that automatically follows from adoption.

Financial Transparency and Managerial Decision-Making

Financial transparency is another important analytical dimension in examining the contribution of QRIS to MSME development. In this study, financial transparency refers primarily to the availability, consistency, and usability of financial information for business owners and managers. It does not necessarily imply public disclosure of financial information or formal compliance with every accounting requirement. Digital payment systems can generate transaction records that may

support the documentation of sales received through QRIS. Such records can potentially make certain transactions easier to review than transactions recorded exclusively through informal cash-handling practices. However, the usefulness of these records depends on whether merchants access, understand, preserve, and integrate them into their financial management activities. A distinction is therefore necessary between transaction visibility and financial transparency at the business level. Transaction visibility means that information about individual digital payments is available. Financial transparency at the business level requires that such information contributes to a sufficiently complete and consistent understanding of business finances. For example, QRIS transaction histories may help a merchant review digital sales. However, if cash sales, operating expenses, inventory purchases, and outstanding obligations are not recorded consistently, the available QRIS information will provide only a partial picture of the business's financial position.

This limitation is particularly important for MSMEs whose financial administration relies heavily on the owner's personal knowledge and informal recordkeeping. QRIS may provide useful digital information without necessarily changing the underlying financial management system. The potential relationship between QRIS and managerial decision-making can be examined through three processes. The first is financial recording, which concerns whether digital transactions are incorporated into daily or periodic sales records. The second is financial monitoring, which concerns whether owners use transaction information to review sales patterns, cash availability, or differences between expected and actual receipts. The third is managerial application**,** which concerns whether the resulting information influences decisions regarding purchasing, inventory, pricing, budgeting, or business expansion. These processes are analytically distinct. Recording transactions does not necessarily mean that the information is reviewed, and reviewing information does not necessarily mean that it influences managerial decisions.

A qualitative investigation can reveal the extent to which QRIS records are used beyond payment confirmation. It can also identify the barriers preventing merchants from translating digital transaction information into more systematic

financial practices. Potential barriers to investigate include limited accounting knowledge, insufficient time for recordkeeping, fragmented financial information, inadequate digital skills, and the absence of simple bookkeeping tools. These are propositions to explore during data collection, not established characteristics of all Indonesian MSMEs. The relationship between QRIS and financial transparency should consequently be understood as conditional. QRIS may create an opportunity to improve transaction visibility, while managerial routines and financial literacy may determine whether that opportunity becomes meaningful financial transparency. This interpretation also has implications for digital financial inclusion. Access to digital payment infrastructure may be an important first step, but meaningful inclusion may require additional capabilities that enable business owners to use financial information in managing their enterprises.

QRIS, Financial Inclusion, and Access to Formal Financial Services

Digital financial inclusion is a central concept in the present study because QRIS adoption potentially connects MSMEs to a wider digital financial ecosystem. Nevertheless, the adoption of QRIS should not be equated with comprehensive access to formal financial services. For analytical purposes, digital financial inclusion can be examined through several related dimensions: access to digital payment facilities, the ability to use these facilities effectively, the availability of appropriate formal financial services, and the capacity to use those services to support business activities. QRIS directly concerns digital payment acceptance. Its relationship with other financial services, including savings, credit, and financing, requires separate examination. Although digital payment activity may generate transaction information that is potentially relevant to financial service providers, the availability of QRIS records does not guarantee access to financing. A lender may consider multiple factors when assessing an MSME, including repayment capacity, business stability, financial documentation, credit history, and applicable eligibility requirements. Consequently, QRIS adoption alone should not be presented as a sufficient condition for obtaining a loan or other formal financing.

The present study should investigate whether and how merchants perceive

QRIS as influencing their relationships with banks, payment service providers, or other formal financial institutions. It should also examine whether QRIS adoption has been accompanied by changes in the use of bank accounts, financial products, or business financing. Three analytical issues are especially relevant. First, access to financial services concerns whether MSMEs can access appropriate services and understand the requirements for using them. Relevant barriers may include geographical access, documentation requirements, service costs, digital literacy, and perceptions of institutional complexity. Second, use of digital financial information concerns whether merchants can obtain and use transaction records when managing their finances or interacting with financial institutions. The practical value of these records may depend on their completeness, accessibility, and suitability for the requirements of the service provider. Third, the suitability of financial products concerns whether available services correspond to the needs and capacities of individual MSMEs. Access to a financial product is not necessarily beneficial if its costs, repayment conditions, or operational requirements are unsuitable for the business. These dimensions highlight an important distinction between access, usage, and beneficial outcomes. A business may have access to QRIS but remain outside formal credit markets. Another may use digital payments frequently but lack the documentation required for financing. A third may already have access to banking services before adopting QRIS.

These possibilities demonstrate why the study should avoid assuming that QRIS automatically expands financial inclusion. Instead, it should investigate the mechanisms, enabling conditions, and limitations through which digital payment adoption may relate to broader financial participation. Interviews with MSME owners should therefore explore their actual experiences with financial institutions, including whether they have applied for financing, what requirements they encountered, whether digital transaction records were considered, and what obstacles remain. Interviews with financial service providers would complement these accounts by clarifying how transaction information is used, what eligibility requirements apply, and whether QRIS-related information has any formal role in the institutions'

assessment processes. This cross-perspective approach is necessary because merchants' perceptions and financial institutions' procedures may differ. The final analysis should distinguish respondents' reported experiences from institutional explanations and avoid generalizing individual cases to the entire MSME population.

QRIS and Business Sustainability

Business sustainability is examined as a broader potential outcome of digital financial transformation. In this study, sustainability refers to the capacity of an MSME to maintain its operations, manage financial obligations, adapt to changing market conditions, and pursue continued business development. It should not be interpreted exclusively as environmental sustainability unless environmental performance is explicitly included in the research design. QRIS may contribute to some aspects of business sustainability by supporting digital payment acceptance and generating transaction information that can be used in financial administration. Nevertheless, the relationship between QRIS and business continuity is likely to depend on multiple factors beyond payment technology. For example, the availability of digital payment options may help a business accommodate customers who prefer cashless transactions. More systematic transaction records may also assist business owners in reviewing sales receipts. However, business continuity continues to depend on other factors, including demand, pricing, production costs, inventory management, competition, financing, and managerial capability. It is therefore important to distinguish between the direct functions of QRIS and the broader outcomes that may be associated with its use. QRIS facilitates payment acceptance, but it does not independently ensure profitability, market expansion, or long-term survival.

The present study can investigate this relationship by examining whether merchants perceive changes in their ability to manage daily receipts, monitor business finances, accommodate customers, or maintain operations. The analysis should also explore negative or unintended experiences, such as transaction difficulties, uncertainty about payment confirmation, additional administrative demands, or dependence on digital infrastructure. Business sustainability can be examined through three preliminary dimensions, namely; financial continuity, the ability to

Dynamic Management Journal
Volume 10 No. 4 Tahun 2026 Hal 495-534
DOI : http://dx.doi.org/10.31000/dmj.v10i4.17377 ISSN (Online) 2580-2127

monitor receipts, understand cash availability, and manage routine financial obligations, operational adaptability, the ability to accommodate changing payment preferences and incorporate digital transactions into daily operations and development capacity**,** the ability to use financial information and available support to make informed decisions about business improvement or expansion. These dimensions are proposed analytical categories. They should be refined according to the actual experiences reported by interview participants and the theoretical framework adopted in the final manuscript.

Institutional support is also relevant to this discussion. Government agencies, banks, payment service providers, and MSME development organizations may help businesses adopt and use digital payment systems. However, the usefulness of such support may depend on its accessibility, continuity, relevance, and practical orientation. Support that focuses only on merchant registration may be insufficient for businesses that subsequently need assistance with transaction reconciliation, bookkeeping, financial literacy, or access to suitable financial products. A more comprehensive approach would consider the entire process from adoption to effective use. The study should therefore investigate not only whether support is available but also whether MSMEs can access it and whether it addresses their actual operational and financial management needs.

Cross-Case Analytical Framework

A multiple-case study provides an opportunity to examine differences among MSMEs rather than assuming that all businesses experience QRIS adoption in the same way. Differences may arise from business characteristics, the intensity of QRIS usage, managerial capabilities, customer payment preferences, infrastructure availability, and access to institutional support. The following matrix is proposed as a working framework for organizing the eventual interview data. It is not a report of completed interviews.

Table 2. Cross-Case Analytical Matrix

Analytical dimension	Evidence to extract from interviews	Comparison across cases	Interpretation to test
QRIS adoption	Reasons for adoption	Customer-driven	Adoption motives may

	and frequency of use	versus strategically motivated adoption	shape subsequent use
Transaction efficiency	Payment processing, verification, and reconciliation	Changes in workflow and technical barriers	Operational benefits depend on effective use
Financial transparency	Recordkeeping, cash-flow monitoring, and financial separation	Basic transaction tracking versus systematic bookkeeping	Digital records may support stronger financial practices
Financial inclusion	Use of formal accounts, savings, and financial services	Perceived access versus actual service utilization	QRIS may provide an entry point without guaranteeing broader inclusion
Business sustainability	Savings, cash-flow stability, and business continuity	Reported changes and alternative explanations	Sustainability depends on multiple business and institutional factors
Institutional support	Training, technical assistance, and provider relationships	Differences in the support available to each case	Complementary support may facilitate financial transformation

Source: Authors' proposed analytical framework.

The matrix provides a structured basis for comparing cases while allowing new themes to emerge from the data. It should not constrain the analysis to the five initial themes if the interviews reveal additional issues. For example, data may reveal that some MSMEs adopt QRIS primarily because of customer requests, while others adopt it in response to wider business digitalization. Alternatively, interviewees may identify settlement procedures, transaction costs, connectivity, or limited knowledge of financial records as more important than initially anticipated. Such patterns should only be reported if supported by actual interview evidence. The analysis should include both similarities and differences across cases, including negative cases that challenge an emerging interpretation. The eventual cross-case analysis should identify the evidence supporting each pattern, explain how the cases differ, and connect the findings to the research questions. Quotations from participants can be used to illustrate interpretations, provided that the quotations are drawn from authentic transcripts and anonymized appropriately.

Preliminary QRIS-Based Financial Transformation Framework

Based on the conceptual relationships identified in the initial research materials, this study proposes a preliminary framework linking QRIS adoption with digital financial transformation among MSMEs. The framework treats QRIS adoption as an

entry point rather than as the final outcome of digitalization. Its potential contribution to financial inclusion and business development is examined through the capabilities and practices that may develop around digital payment use. The proposed sequence represents an analytical proposition, not an established causal model. The relationships may be iterative rather than strictly linear. For example, an MSME's existing financial literacy may influence its initial QRIS adoption decisions, while its experience with digital payments may subsequently influence its willingness to adopt additional digital financial tools. Similarly, institutional support may affect several stages of the process rather than operating exclusively at the beginning. Training may help merchants adopt QRIS, improve their transaction management practices, and understand the relationship between digital records and financial services.

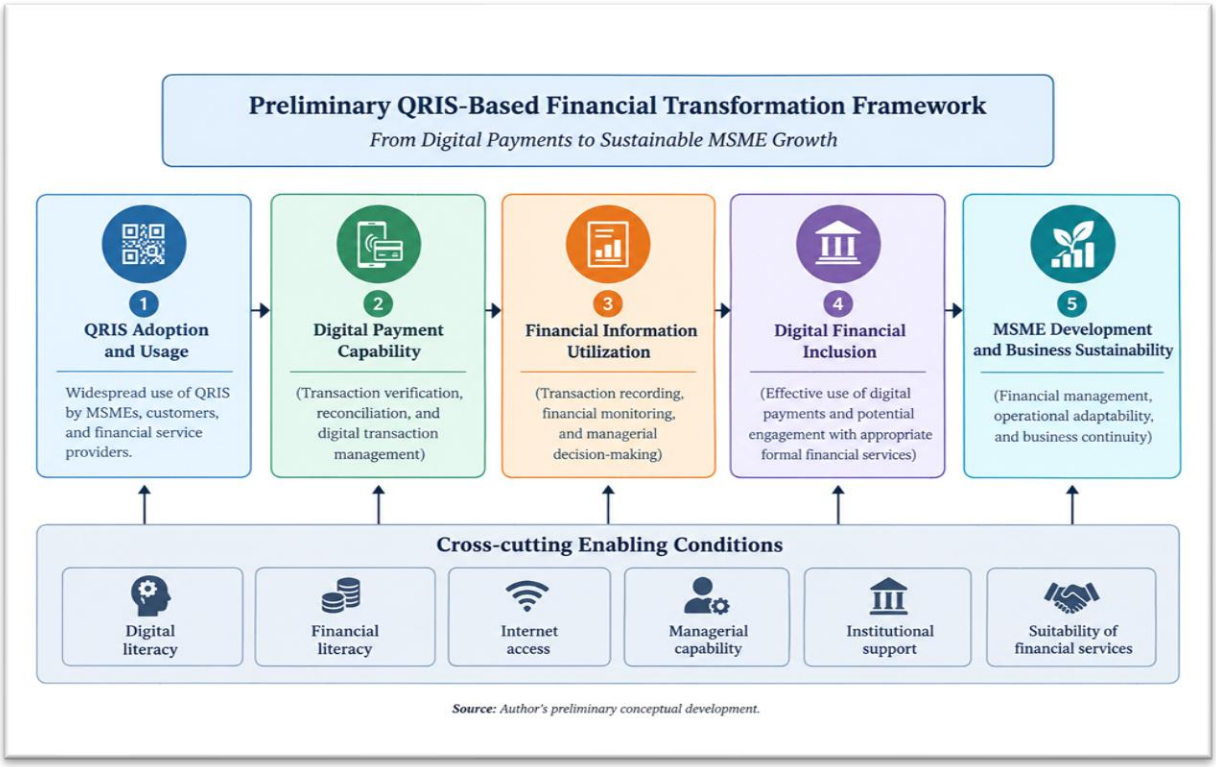
The framework also recognizes that some MSMEs may not progress through every stage. QRIS adoption may remain limited to payment acceptance if merchants lack the knowledge, resources, or incentives to integrate transaction information into their broader financial management practices. The framework will therefore need to be assessed against the empirical evidence. The final version should retain, revise, or remove proposed relationships according to the patterns identified in the interviews and the relevant theoretical explanations.

The cross-cutting enabling conditions should also be understood as mutually reinforcing rather than as independent factors that operate at only one stage. Digital literacy can strengthen a merchant's ability to use QRIS safely, while successful and secure use can increase confidence and create motivation to develop further digital skills. Financial literacy helps merchants interpret transaction records, but more consistent digital records may in turn make financial education more practical by providing examples drawn from the business's own activities. Institutional support can respond to such feedback by adjusting training, security guidance, and technical assistance, while MSME feedback can inform improvements in provider services and public policy.

Business size, sector, transaction volume, and managerial readiness shape how these interactions unfold. Accordingly, the framework incorporates a feedback loop in

Dynamic Management Journal
Volume 10 No. 4 Tahun 2026 Hal 495-534
DOI : http://dx.doi.org/10.31000/dmj.v10i4.17377 ISSN (Online) 2580-2127

which usage experience, perceived benefits, security incidents, and support quality inform subsequent learning, adaptation, and continued QRIS utilization. These relationships remain propositions to be examined through the case evidence rather than predetermined causal effects.



Source: Author's preliminary conceptual development

Figure 1. Preliminary QRIS-Based Financial Transformation Framework

Strategic Policy Matrix for MSME Development

A central contribution envisaged for this study is a strategic policy matrix that translates the analysis of QRIS adoption into practical recommendations for strengthening digital financial inclusion and MSME development. The matrix below is a preliminary policy design derived from the research questions and proposed analytical framework. It should be regarded as a set of candidate interventions rather than a definitive list of empirically demonstrated policy gaps.

Table 3. QRIS-Based Strategic Policy Matrix

Strategic Priority	Key Challenge	Policy Intervention	Key Stakeholders	Success Indicators
QRIS Adoption	Low awareness and trust	Merchant education and onboarding	Banks, providers, government	Adoption and usage

Digital Capability	Limited transaction skills, payment-verification errors	Provide hands-on training to verify the merchant name in the payment app before authorizing payment	Providers, MSME agencies	Transaction accuracy
Financial Transparency	Poor financial records	Simple bookkeeping support	Banks, MSME associations	Record completeness
Financial Capability	Weak financial planning	Applied financial literacy	Banks, educators	Budgeting and cash-flow practices
Financial Inclusion	Limited access to formal services	Access to suitable financial products	Financial institutions	Formal service utilization
Business Sustainability	Weak resilience and planning	Continuity planning and advisory	MSME agencies, banks	Business continuity
Institutional Coordination	Fragmented support	Integrated assistance and monitoring	BI, government, providers	Support effectiveness

Source: Authors' proposed analytical framework.

From Adoption-Oriented Policy to Capability-Oriented Policy

The first strategic implication is the need to distinguish policies that encourage QRIS adoption from policies that improve the quality of its use. Merchant registration and the availability of QRIS infrastructure are important, but they do not necessarily ensure that businesses can manage transactions efficiently or use digital financial information effectively. A capability-oriented approach would place greater emphasis on practical assistance after adoption. Such assistance could include payment verification, transaction reconciliation, basic digital bookkeeping, and procedures for addressing transaction problems. The emphasis should be on solving operational problems rather than providing technical information alone. Training programs should be adapted to the needs of businesses with different levels of digital literacy and different transaction volumes

At the micro level, digital security training should include a simple anti-tampering routine. Before displaying a QRIS code, merchants should confirm that the code was issued by their registered payment service provider and that the merchant identity shown in the payment application matches their business. The QR display should be placed where it can be observed, inspected at the start of each business day,

and replaced through the provider if it appears covered, altered, or substituted. At the point of sale, merchants should ask customers to verify the displayed merchant name before confirming payment, and should rely on the official application's transaction notification or transaction history rather than a customer's screenshot alone. Daily reconciliation and a clear reporting route to the provider can help identify suspicious transactions and support timely investigation. These measures complement Bank Indonesia's consumer guidance to use licensed payment applications, verify the merchant name, and check the transaction notification after payment (Bank Indonesia, n.d.).

Integrating Digital Payment Adoption with Financial Literacy

The second strategic implication concerns the relationship between digital payment adoption and financial literacy. QRIS can generate useful transaction information, but merchants may need additional knowledge to interpret that information and incorporate it into business decisions. Financial literacy initiatives could therefore be integrated with digital payment assistance. Topics might include distinguishing business and personal transactions, recording income and expenses, monitoring cash flow, and reviewing periodic sales information. Such initiatives should not assume that every MSME requires the same intervention. Businesses with basic payment-management difficulties may need introductory support, whereas more digitally capable businesses may benefit from assistance with bookkeeping integration and financial planning. The effectiveness of these initiatives should be assessed through observable changes in financial management practices rather than the number of training sessions conducted alone.

Linking Digital Payment Information with Appropriate Financial Services

The third strategic implication is the need to examine whether QRIS adoption creates practical opportunities for MSMEs to engage with formal financial services. Digital transaction records may be relevant to financial management and, where appropriate, to financial service assessments. However, the use of such information must be distinguished from an automatic entitlement to financing. Policy interventions should therefore focus on improving the ability of MSMEs to

understand financial products, prepare appropriate documentation, and identify services that match their business needs. Financial service providers should communicate eligibility criteria and costs transparently. Any initiative involving the use or sharing of transaction data should also respect consent, data protection, security, and applicable regulatory requirements. MSMEs should understand what information is used, for what purpose, and under what conditions.

Strengthening Institutional Coordination

The fourth strategic implication concerns coordination among institutions involved in MSME digitalization and financial inclusion. QRIS adoption, financial literacy, bookkeeping assistance, and access to formal financial services may involve different organizations. Without appropriate coordination, businesses may receive fragmented assistance or encounter difficulties identifying the institution responsible for addressing a particular problem. A coordinated support system could help connect payment onboarding with technical assistance, financial education, bookkeeping support, and referrals to relevant financial services. Nevertheless, the proposed approach should be developed in consultation with the relevant institutions. The appropriate allocation of responsibilities and the feasibility of specific interventions cannot be established from the current contextual data alone.

Developing Outcome-Oriented Monitoring

The fifth strategic implication is the need for a broader approach to monitoring QRIS-related MSME programs. Merchant registration and total transaction volumes are useful measures of adoption, but they do not independently reveal whether digital financial inclusion has improved. A more comprehensive evaluation could distinguish four levels of indicators namely adoption indicators**,** the number and characteristics of participating MSMEs, **u**sage indicators**;** active usage, transaction frequency, and the consistency of digital payment acceptance; **c**apability indicators, transaction reconciliation, bookkeeping practices, and the use of financial information, then outcome indicator, access to appropriate financial services, changes in financial management, and business-level outcomes where measurable. The selection of indicators should reflect the objectives of each intervention and the

availability of reliable data. Where causal attribution is not possible, results should be reported as observed changes or associations rather than as effects caused exclusively by QRIS.

Theoretical Implications

The proposed analytical framework offers several potential contributions to the discussion of digital financial inclusion and MSME development. These contributions remain provisional until they are examined against the empirical findings. First, the study distinguishes digital payment adoption from the organizational capabilities required to use digital payment information effectively. This distinction may help explain why businesses with access to the same payment infrastructure can experience different levels of benefit. Second, the framework places financial information utilization between digital payment capability and broader financial inclusion. This conceptual positioning directs attention to the activities through which digital transaction records may become useful for financial management. It also prevents the assumption that transaction digitization automatically produces managerial improvement. Third, the study distinguishes digital payment acceptance from access to formal financial services. This distinction is important because QRIS adoption, banking relationships, credit eligibility, and access to appropriate financing represent related but non-equivalent dimensions of financial inclusion. Fourth, the framework considers institutional support and digital and financial literacy as enabling conditions. Their importance should be assessed empirically rather than assumed in advance. The analysis may identify additional conditions that influence the relationship between QRIS use and MSME development. The study may ultimately contribute an integrated explanation of how digital payment adoption, organizational capability, financial information practices, and institutional support interact in the context of MSMEs. However, the strength and originality of this contribution will depend on the theoretical interpretation of the actual data, its relationship to prior research, and the extent to which the findings extend or refine existing explanations

Practical Implications

DOI : http://dx.doi.org/10.31000/dmj.v10i4.17377 ISSN (Online) 2580-2127

For MSME owners and managers, the proposed analysis highlights the importance of looking beyond the acceptance of digital payments. QRIS may provide access to a digital payment channel, but its broader managerial value depends on how transaction information is used in business operations. MSMEs may benefit from establishing routine procedures for confirming payments, reviewing transaction histories, reconciling digital receipts, and integrating those records with other business income and expenses. These practices may improve the availability of financial information for managerial decisions, although their effectiveness should be evaluated in the context of individual businesses. For payment service providers and financial institutions, the analysis suggests that assistance may need to extend beyond onboarding. Practical guidance, accessible transaction information, transparent service procedures, and appropriate financial education may help merchants use digital payment services more effectively.

Payment service providers and MSME support agencies should make QR-code integrity part of merchant onboarding and continuing assistance. This can include issuing standardized, tamper-evident QR displays where feasible, educating merchants about unauthorized sticker replacement, providing an accessible channel to report suspicious codes, and explaining the steps for deactivating and replacing a compromised QRIS. These measures should be accompanied by clear incident records and customer-redress procedures so that security responsibilities do not fall solely on individual micro-business owners.

For government agencies and MSME development organizations, the preliminary policy matrix emphasizes the potential value of integrating digital payment assistance with bookkeeping, financial literacy, and business development programs. Program design should be responsive to the actual needs and capabilities of participating MSMEs. For researchers and policymakers, the framework suggests that evaluation should consider not only the scale of digital payment adoption but also the quality of usage and the availability of appropriate financial services. This broader perspective can support a more differentiated understanding of digital financial inclusion. These implications should be treated as recommendations for

investigation and policy development rather than as evidence that existing programs have failed or that particular interventions have already been demonstrated to be effective.

CONCLUSION AND RECOMENDATIONS

This study highlights the potential of QRIS to support MSME financial transformation beyond the adoption of digital payment technology. QRIS can facilitate a broader transformation process through improved digital payment capability, financial information utilization, digital financial inclusion, and ultimately, MSME development and business sustainability. However, its benefits depend not only on adoption but also on the ability of MSMEs to manage digital transactions, maintain financial records, interpret financial information, and use it for managerial decision-making. The proposed framework emphasizes the importance of digital literacy, financial literacy, internet access, managerial capability, institutional support, and suitable financial services as enabling conditions. Therefore, QRIS should be viewed not merely as a payment instrument but as an entry point for strengthening MSME financial management and inclusion. This study contributes a preliminary conceptual framework connecting digital payment adoption with financial capability and sustainable business development, which requires further empirical validation across different MSME contexts.

The development of QRIS-based financial transformation requires an integrated approach that combines technology adoption with improvements in managerial and financial capabilities. QRIS implementation programs should therefore be accompanied by practical training in transaction verification, digital security, reconciliation, bookkeeping, and cash-flow management. Banks, payment service providers, local governments, and MSME development agencies should strengthen collaboration to improve digital literacy, facilitate access to appropriate formal financial services, and provide continuous technical assistance. Furthermore, MSMEs should be encouraged to utilize digital transaction records for financial planning, business evaluation, and continuity management. Institutional coordination is also essential to ensure that training, financial services, and business support are

accessible and responsive to MSME needs. Future research should empirically examine the proposed framework using primary data from QRIS-adopting MSMEs to assess the relationships among QRIS adoption, digital payment capability, financial information utilization, financial inclusion, and business sustainability.

REFERENCES

Affandi, Y., Ridhwan, M. M., Trinugroho, I., & Adiwibowo, D. H. (2024). Digital adoption, business performance, and financial literacy in ultra-micro, micro, and small enterprises in Indonesia. Research in International Business and Finance, 70(Part B), Article 102376. https://doi.org/10.1016/j.ribaf.2024.102376

Bank Indonesia. (n.d.). Quick Response Code Indonesian Standard (QRIS). https://www.bi.go.id/id/fungsi-utama/sistem-pembayaran/ritel/kanal-layanan/qris/default.aspx

Bank Negara Malaysia, & Bank Indonesia. (2023, May 8). Indonesia and Malaysia announce the commercial launch of the cross-border QR payment linkage. Bank Negara Malaysia. https://www.bnm.gov.my/-/qrpay_launch_bnm_bi_en

Bank of Thailand. (n.d.). Cross-border payment linkages. https://www.bot.or.th/en/financial-innovation/digital-finance/digital-payment/cross-border-payment.htm

Bank Indonesia. (2025). Laporan keuangan tahunan Bank Indonesia tahun 2024. https://www.bi.go.id/id/publikasi/ruang-media/news-release/Documents/LKTBI-2024.pdf

Bank Indonesia. (2026). Laporan perekonomian Indonesia 2025. https://www.bi.go.id/id/publikasi/laporan/Pages/LPI_2025.aspx

Braun, V., & Clarke, V. (2022). Thematic analysis: A practical guide. SAGE Publications.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319–340. https://doi.org/10.2307/249008

Demirgüç-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2022). The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19. World Bank. https://doi.org/10.1596/978-1-4648-1897-4

Dwiatma, A. A., & Nuryakin, C. (2025). Pengaruh transaksi nontunai melalui Quick Response Indonesian Standard (QRIS) terhadap jumlah tenaga kerja UMKM. Jurnal Bina Praja, 17(1), 33–41. https://doi.org/10.21787/jbp.17.2025.33-41

Fitriani, W. R., Pinem, A. A., Maharani, H. R., Sudirman, L. K., & Widyaningrum, V. (2026). Seller intentions to switch for quick response code payment in culinary sector: An empirical study from Indonesia. Social Sciences & Humanities Open, 13, Article 102691. https://doi.org/10.1016/j.ssaho.2026.102691

Hariyanto, D., Safitri, H., Marikan, D. A. A., Bakar, N. A. A., & Ubaidillah, N. Z. (2026). The concept of fintech in the sustainability of MSM's business in West Kalimantan: Moderated by ease of digital payment. International Review of Management and Marketing, 16(3), 521–529. https://doi.org/10.32479/irmm.22796

Khoirunnisa, K., & Wati, L. N. (2026). The effects of access to capital and digital payments on MSME performance and sustainability. International Journal of Management Analytics, 4(3), 817–834. https://doi.org/10.59890/ijma.v4i3.35

Khoirurrizki, K. Z. (2025). A MSMEs perceptions on the use of the Indonesian Quick Response Code (QRIS) as a transaction tool. Indo-Fintech Intellectuals: Journal of Economics and Business, 4(6), 3312–3322. https://doi.org/10.54373/ifijeb.v4i6.2381

Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic inquiry. SAGE Publications.

Mahyuni, L. P., & Setiawan, I. W. A. (2021). Bagaimana QRIS menarik minat UMKM? Sebuah model untuk memahami intensi UMKM menggunakan QRIS. Forum Ekonomi, 23(4). https://doi.org/10.30872/jfor.v23i4.10158

Nurqamarani, A. S., Fadilla, S., & Juliana, A. (2024). Revolutionizing payment systems: The integration of TRAM and trust in QRIS adoption for micro, small, and medium enterprises in Indonesia. Journal of Information Systems Engineering and Business Intelligence, 10(3), 314–327. https://doi.org/10.20473/jisebi.10.3.314-327

Organisation for Economic Co-operation and Development. (2021). The digital transformation of SMEs. OECD Publishing. https://doi.org/10.1787/bdb9256a-en

Payments Network Malaysia. (2025, December 1). PayNet refreshes DuitNow QR standee design nationwide. https://paynet.my/about-us/media-centre/press-release/paynet-introduces-refreshed-duitnow-qr-standee-nationwide.html

Prakasa, Y., & Jumani, Z. A. (2024). Linking digital capability to small business performance: The mediating role of digital business transformation. Cogent Business & Management, 11(1), Article 2342486. https://doi.org/10.1080/23311975.2024.2342486

Pranitasari, D., Harini, S., Nugroho, S. H., Harahap, S. S., & Sudiarso, A. (2026). Digitalization and financial inclusion among women-led micro and small

enterprises in Indonesia: An empirical perspective. Frontiers in Sociology, 11, Article 1813070. https://doi.org/10.3389/fsoc.2026.1813070

Pranitasari, D., Suriawinata, I. S., & Warcito. (2026). A gender-sensitive sustainable model of digital and financial inclusion for women-led MSMEs in Indonesia. Frontiers in Human Dynamics, 8, Article 1795115. https://doi.org/10.3389/fhumd.2026.1795115

Prasasti, G., Isnawati, D., & Krisnaresanti, A. (2026). Digital payment ecosystem and financial inclusion for MSMEs economic sustainability in Indonesia: A systematic literature review. The International Conference on Sustainable Economics Management and Accounting Proceeding, 2(1), 746–757. https://doi.org/10.32424/icsema.v2i1.784

Sumastuti, E., Widiastuti, C. T., Indriasari, I., & Adhi, A. H. P. (2026). How literacy and savings link digital finance to sustainability? Economics Development Analysis Journal, 15(1). https://doi.org/10.15294/edaj.v15i1.35159

Teece, D. J. (2018). Business models and dynamic capabilities. Long Range Planning, 51(1), 40–49. https://doi.org/10.1016/j.lrp.2017.06.007

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. Journal of Business Research, 122, 889–901. https://doi.org/10.1016/j.jbusres.2019.09.022

Vial, G. (2019). Understanding digital transformation: A review and a research agenda. The Journal of Strategic Information Systems, 28(2), 118–144. https://doi.org/10.1016/j.jsis.2019.01.003

Widayani, A., Fiernaningsih, N., & Herijanto, P. (2022). Barriers to digital payment adoption: Micro, small and medium enterprises. Management & Marketing, 17(4), 528–542. https://doi.org/10.2478/mmcks-2022-0029

Yin, R. K. (2018). Case study research and applications: Design and methods (6th ed.). SAGE Publications.