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Deviation in Public Policy Implementation: An Analytical Study of QRIS Policy in Indonesia (2019–2025)

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Abstract:
The transformation of digital payment systems has become a central focus of Indonesia's financial inclusion agenda. One of the strategic policies in this context is the implementation of QRIS (Quick Response Code Indonesian Standard), launched by Bank Indonesia in 2019. This study aims to analyze the implementation of the QRIS policy in Indonesia from 2019 to 2025, using the theoretical and analytical framework of Mazmanian & Sabatier's Policy Implementation Theory and Model. The research employs a descriptive qualitative approach, collecting data through literature review, policy document analysis, and secondary data from Bank Indonesia. The analysis focuses on six key variables derived from the theory: policy clarity, available resources, characteristics of implementing agencies, external environmental support, target group responses, and socio-economic conditions. The findings reveal that although the QRIS policy objectives are clearly defined and supported by adequate technological infrastructure, its implementation still faces challenges in digital literacy, adoption disparities across regions, and limited outreach to the informal sector. The coordination between implementing institutions also varies in effectiveness. In conclusion, while the national implementation of QRIS shows significant progress, its overall effectiveness depends heavily on strengthening human resources, improving policy communication strategies, and adapting to local socio-economic contexts. These findings contribute to the evaluation of technology-based public policy and offer a foundation for enhancing the effectiveness of future digital financial policies.

Keyword: Deviation, Public Policy, Implementation

INTRODUCTION

Digital transformation in the financial sector has become a driving force behind the evolution of global payment systems, and in Indonesia, QRIS (Quick Response Code Indonesian Standard) plays a central role in this transformation. Launched by Bank Indonesia in 2019, QRIS was introduced to meet the demand for efficient, secure, and inclusive non-cash transactions, especially for Micro, Small, and Medium Enterprises

(MSMEs). Its main objectives include boosting MSME revenues by 15%-20%, improving financial inclusion, and increasing digital literacy among underserved communities in 3T regions. According to the Indonesian Payment System Blueprint 2025, Bank Indonesia targets a 90% financial inclusion rate by 2025, making QRIS a key tool for achieving this goal. Despite progress, QRIS faces challenges such as digital inequality, inadequate infrastructure, and low user literacy (Candra Sari et al., 2021).

QRIS is designed to be a universal payment instrument supported by QR code technology, with the goal of improving access to financial services for marginalized groups, particularly MSMEs in rural and underserved areas. However, the implementation of QRIS has been hindered by socio-economic challenges, such as limited digital literacy, lack of infrastructure, and exclusion from formal financial systems. Although QRIS has expanded significantly, with 42.2 million users and over 32 million registered merchants as of March 2024, existing studies emphasize the need for more comprehensive strategies to address these barriers. QRIS is positioned as a crucial tool in the national agenda for economic inclusion, aiming to create equitable growth and poverty reduction (Hamzah Muchtar et al., 2024).

The success of QRIS also depends on overcoming technical and logistical hurdles. For example, a study in Jakarta found that 39% of MSME users faced technical issues when using QRIS, and only 58% found the system user-friendly. Moreover, QRIS has yet to significantly improve business efficiency in sectors such as food and beverage in Medan. These findings highlight the importance of viewing QRIS not just as a technological tool but also as a public policy intervention. Effective implementation requires coordination at both institutional and grassroots levels, ensuring that resources are appropriately allocated, and the public is adequately prepared (Setiyono, 2021).

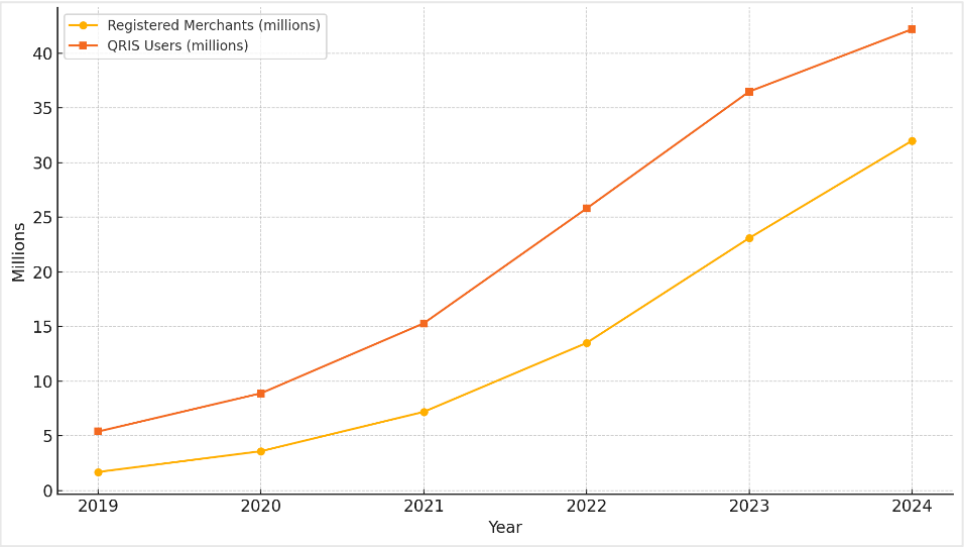

Figure 1. Growth of QRIS Users and Merchants in Indonesia (2019–2020)
Source: Bank Indonesia (BI, 2024)

Since its official launch in 2019, the number of QRIS users and registered merchants in Indonesia has significantly increased, reflecting strong momentum in the adoption of cashless payments. However, this quantitative success does not guarantee that QRIS has effectively achieved its policy objectives, such as financial inclusion, interoperability, and transactional efficiency. Persistent challenges, including uneven technological infrastructure, lack of standardization in merchant onboarding, limited user literacy, and insufficient institutional coordination, continue to undermine its full

potential. These issues emphasize the need to view QRIS not only as a digital innovation but as a complex policy tool that requires careful evaluation of its implementation through the Policy Implementation Theory of Mazmanian and Sabatier (1983), which examines policy clarity, socio-economic conditions, and organizational capacity.

To assess QRIS's effectiveness, this study adopts a qualitative descriptive method based on Mazmanian and Sabatier's model, focusing on how well the policy's goals are operationalized and the adequacy of resources and coordination among implementers such as Bank Indonesia, financial institutions, and merchants. The study draws on secondary data from official reports and peer-reviewed journals, such as the Technology Acceptance Model, which explores how perceived benefits and usage consistency affect QRIS adoption (Gunawan et al., 2023). Additionally, research on MSME perceptions highlights trust-related barriers and challenges within the informal sector, which hinder broader adoption (Setiyono, 2021).

The implementation of QRIS is also influenced by external factors, such as the involvement of the private sector, regional regulations, and local political pressures. Key partners of Bank Indonesia, including fintechs, banks, and payment service providers (PSPs), play a critical role in integrating QRIS into the national payment ecosystem. The success of QRIS adoption among MSMEs depends largely on technological support, merchant training, and promotional efforts led by the private sector. Furthermore, regional regulatory support accelerates QRIS adoption, while local political dynamics can either support or hinder the process. As such, QRIS implementation requires coordinated efforts from central policies, local engagement, private sector support, and political-regulatory alignment (Nurqamarani et al., 2024).

RESEARCH METHOD

This study adopts a qualitative descriptive research design to evaluate the implementation of the QRIS (Quick Response Code Indonesian Standard) policy in Indonesia from 2019 to 2025. The research is framed using Mazmanian and Sabatier's Policy Implementation Theory, which identifies three essential components for successful policy implementation: the clarity of policy objectives, the capacity of implementing institutions, and the influence of external factors. The study aims to examine how QRIS has been operationalized, focusing on systemic and structural factors affecting its effectiveness in promoting financial inclusion and cashless transactions. Unlike adoption models such as the Technology Acceptance Model (TAM), this research emphasizes institutional synergy, resource distribution, and community responsiveness, which have been underexplored in QRIS-related research (Aisyah et al., 2023).

The study targets key stakeholders involved in QRIS implementation, including government regulators, financial institutions, MSME owners, and digital platform service providers. Purposive sampling was employed to select approximately 25 participants directly involved with or impacted by the policy. Data were collected through in-depth semi-structured interviews, document analysis, and archival review of government regulations and policy reports. The interview protocol was designed to address the implementation variables outlined in the Mazmanian and Sabatier framework. Insights from previous studies, such as those on digital payment risks (Musyaffi et al., 2020) and payment practices of Indonesian users abroad (Kurniawan et al., 2024), further enriched the research. Ethical procedures, including informed consent and anonymity, were followed, and all data were securely stored for academic use.

Thematic analysis was used to process the data, with coding aligned to the categories of policy clarity, institutional resources, inter-organizational coordination, stakeholder

responsiveness, and environmental support. This approach, inspired by studies on MSME adaptation to QRIS (Sihaloho et al., 2020) and digital readiness at the community level (Yuliati et al., 2021), allowed for the identification of patterns, gaps, and areas for improvement in the implementation process. The study's methodological rigor ensures credibility and relevance, providing a comprehensive understanding of QRIS's real-world outcomes.

RESULT AND DICUSSION

1. Overview of QRIS Usage in Indonesia

The Quick Response Code Indonesian Standard (QRIS), initiated by Bank Indonesia, is a digital payment system designed to promote efficiency and financial inclusion by integrating various QR codes from different payment service providers (PSPs) into a single national standard accepted across all payment platforms. QRIS facilitates quick, secure, and efficient cashless transactions, making it a practical solution for both the public and businesses (Indriani et al., 2023). It has expanded to sectors like MSMEs, transportation, and education, and operates by users scanning the QR code with a digital wallet app, entering the payment amount, and confirming the transaction. This ease of use has made QRIS increasingly popular, particularly in the wake of the COVID-19 pandemic (Amelia et al., 2023). However, QRIS adoption faces challenges, particularly among MSMEs in regions with limited digital infrastructure or low digital literacy, highlighting that its implementation is not only a technical issue but also involves social, economic, and political factors (Aisyah et al., 2023).

Table 1. QRIS Adoption by Region

Region	QRIS Adoption (%)	Total Transactions (in billion IDR)
Jakarta	85%	500
Surabaya	70%	350
Bali	60%	250
Rural Areas	40%	100

Source: Bank Indonesia (2023)

The data highlights regional disparities in QRIS adoption across Indonesia, with urban areas like Jakarta and Surabaya benefiting from better digital infrastructure, higher smartphone penetration, and greater digital literacy, leading to faster QRIS adoption. In contrast, rural areas face challenges such as poor internet connectivity, limited access to digital devices, and lower financial literacy, which hinder QRIS adoption and exclude MSMEs from digital ecosystems. Urban MSMEs are able to leverage QRIS for enhanced operational efficiency and customer reach, while rural MSMEs continue to rely on traditional cash transactions. To bridge this gap, interventions such as infrastructure development, targeted digital education programs, and affordable device provision are crucial (Yuliati et al., 2021).

Digital literacy remains a significant barrier to QRIS adoption, especially in rural communities. Although digital literacy initiatives, including community-based training and partnerships with cooperatives, have been integrated into QRIS implementation, gaps persist due to short-term and event-based nature of many programs. These programs often lack sustained follow-up and fail to address local language preferences and varying literacy levels. Additionally, rural areas lack continuous support networks and affordable digital infrastructure, leaving MSMEs unable to maintain QRIS usage. However, local initiatives like Jakarta's QRIS onboarding incentive program and Denpasar's Digital

Market Revitalization program, which provided training and subsidized smartphones, have successfully boosted adoption, demonstrating the effectiveness of tailored, sector-specific interventions in overcoming barriers to QRIS adoption (Yuliati et al., 2021).

2. Policy Implementation Theory by Mazmanian & Sabatier

Mazmanian and Sabatier's (1979) policy implementation framework highlights the role of both policy content and external factors in the success of public policies. The first key category is the tractability of the problem, which in the case of QRIS involves challenges such as limited digital infrastructure, poor internet access, and varying levels of readiness across target groups like MSMEs, students, informal vendors, and the elderly. These challenges require behavioral changes that cannot be achieved instantly and necessitate extensive education. To overcome these barriers, complementary policies such as digital training and equipment subsidies are crucial (Anggadwita et al., 2021). The second category is the ability of the statute to structure implementation favorably, where the clarity of policy goals outlined by Bank Indonesia plays a critical role, though distribution challenges and limited inter-institutional coordination hinder implementation (Afandi et al., 2022; Gultom et al., 2023).

The third category involves political factors, where the support of political actors such as regional governments, financial institutions, and NGOs is essential for QRIS adoption. Stability in policy-supporting coalitions is important, as changes in leadership or institutional misalignment can obstruct progress. Additionally, passive resistance from traditional economic actors and weak local political commitment in budgeting and prioritizing digital development pose significant challenges to the success of QRIS policies (Aisyah et al., 2023). These challenges underline the complexity of QRIS implementation, requiring not just technological solutions but also structural, institutional, and political alignment.

To better understand QRIS implementation, it is useful to compare it with similar systems like Singapore's SGQR, launched in 2018. SGQR successfully unified various e-payment providers under a single standardized QR code, thanks to early collaboration between the Monetary Authority of Singapore (MAS) and the Infocomm Media Development Authority (IMDA), ensuring synchronized regulations and merchant onboarding. This dynamic inter-agency collaboration could serve as a model for improving QRIS governance in Indonesia. Similarly, India's UPI QR system, which standardized QR code payments across providers and integrated them with mobile banking apps, offers valuable insights. India's success was driven by strong regulatory support from the National Payments Corporation of India (NPCI) and public-private partnerships that subsidized QR code deployment in rural areas. While QRIS adoption has been strong in urban areas, Indonesia faces challenges in rural inclusion, highlighting the need for expanded government-private sector cooperation and infrastructure investment to ensure more equitable adoption nationwide.

3. Integration of Previous Research with New Findings

This study builds on previous research showing that QRIS adoption is strongly influenced by user perceptions of convenience and security, particularly among MSMEs, where QRIS has improved transactional ease and expanded customer reach (Gunawan et al., 2023). It also aligns with prior findings highlighting technical barriers and limited institutional coordination as key obstacles to QRIS expansion, especially in rural areas where infrastructural gaps and low digital literacy persist (Setiyono, 2021). In terms of policy outcomes, this study confirms that QRIS has enhanced income and financial access

for MSMEs, particularly in urban areas, while rural adoption remains limited (Candra Sari et al., 2021). Additionally, regional regulatory support has been found to play a crucial role in QRIS success, with proactive local governments accelerating adoption, while regions lacking such support lag behind (Aisyah et al., 2023). Although QRIS adoption rose during the COVID-19 pandemic, sustaining this growth requires continued infrastructure investment and adaptive policy efforts, as observed in earlier research (Sendjaja et al., 2023). Thus, this study extends prior findings by emphasizing that QRIS success requires not only technological acceptance but also alignment across structural, institutional, and socio-cultural dimensions to fully realize its potential as a digital financial policy instrument.

4. Analysis of Implementation Deviations

As QRIS is rolled out across Indonesia, its execution reveals numerous practical shortcomings. These issues stem not only from technological gaps but also from institutional misalignment, policy rigidity, and diverse user behaviors across socioeconomic strata. In order to understand these challenges, it is crucial to assess implementation deviations within a structured analytical framework.

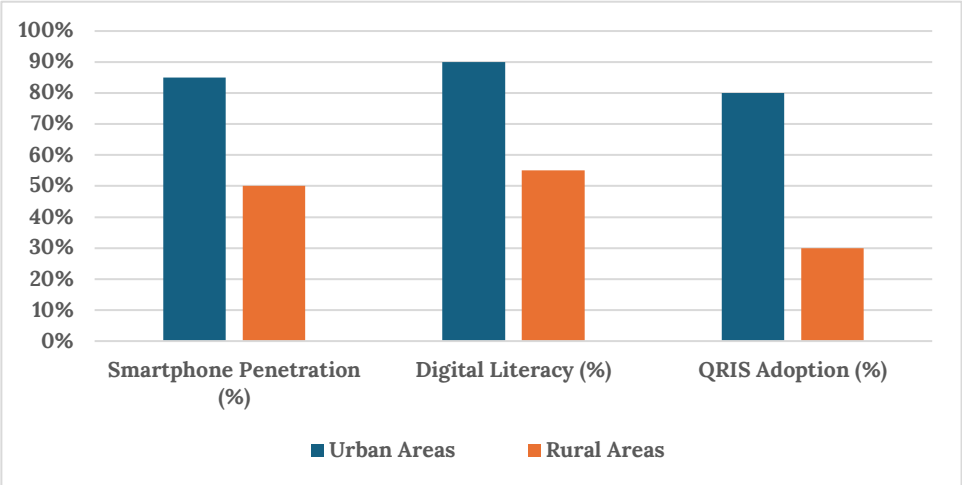

Figure 2. Digital Literacy and Device Penetration in Urban vs. Rural Areas
Source: KEMKOMINFO (2023)

The table illustrates significant disparities in smartphone penetration, digital literacy, and QRIS adoption rates between urban and rural areas. Urban areas exhibit high smartphone penetration and digital literacy, while rural areas face substantial challenges, leading to lower QRIS adoption. These challenges are compounded by technological gaps, digital illiteracy, and insufficient infrastructure, resulting in a divergence between policy intent and actual implementation. Despite clear objectives to promote financial inclusion, many users remain excluded due to a lack of access to devices and inadequate digital literacy. Additionally, varying interpretations of implementation protocols across different levels of government further complicate the policy landscape(Astari et al., 2022). QRIS implementation often deviates from intended goals due to these practical shortcomings, with the framework being robust at the national level but inconsistently executed across regional contexts (Pratiwi, 2022).

To address these challenges, both national and local authorities have made real-time policy adjustments to enhance QRIS flexibility. Bank Indonesia launched the QRIS TTM (Tanpa Tatap Muka) initiative during the COVID-19 pandemic, enabling remote payments for MSMEs and developing offline QRIS features to address rural internet

limitations. Locally, Bali enforced mandatory QRIS usage in tourist areas through merchant training and device subsidies, while Jakarta simplified onboarding and waived registration fees for market vendors. These initiatives highlight the importance of dynamic, context-sensitive interventions to overcome operational barriers and ensure QRIS's success across diverse regions (Sendjaja et al., 2023; Setiyono, 2021).

Another contributing factor is the evolving nature of digital payment behaviors among users. As preferences shift and new technologies emerge, static policies struggle to stay relevant. Without adaptive implementation mechanisms, even well-designed systems like QRIS can become obsolete or underutilized. This misalignment between user needs and policy design can impede the adoption and diffusion of the technology, particularly among small businesses and marginalized communities (Sendjaja et al., 2023). These deviations can be assessed from two main aspects:

a. Deviations in the Policy Itself

External factors play a crucial role in shaping the success or failure of QRIS implementation across Indonesia. These factors include the involvement of the private sector, local regulations, regional political dynamics, and stakeholder attitudes toward digital payment adoption. The private sector, particularly payment service providers (PSPs) and digital wallet companies, is critical in accelerating QRIS adoption by providing the necessary technological infrastructure, market education, and user incentives. However, disparities arise when PSPs prioritize high-traffic urban areas for rollout, neglecting rural regions where financial inclusion is most needed. This commercial-driven focus creates gaps that public institutions alone cannot address (Duykers et al., 2023).

Local regulations significantly affect QRIS deployment, with some regional governments issuing supportive ordinances mandating QRIS adoption in traditional markets, public transportation, and local SMEs. These mandates have boosted QRIS usage in regions like Jakarta and Bali. However, in areas without such regulations, adoption rates remain low due to the lack of institutional pressure and incentives (Afandi et al., 2022; Setiyono, 2021). Local bureaucratic inertia also hampers proactive policy adaptation, delaying QRIS integration into community practices. In politically stable areas with progressive leadership, QRIS receives strong endorsement, with budget allocations for merchant onboarding and public awareness campaigns. In contrast, regions with political fragmentation or leadership turnover often treat QRIS initiatives symbolically without concrete regulatory follow-up (Astari et al., 2022).

Stakeholder attitudes toward QRIS also vary based on socio-economic backgrounds, regional digital readiness, and trust in financial technology. MSME operators in urban areas generally exhibit higher enthusiasm, viewing QRIS as a tool for market expansion. However, rural and traditional communities remain skeptical, citing concerns over transaction security, technical complexity, and cultural attachment to cash transactions (Azzahroo et al., 2021; Hamzah Muchtar et al., 2024). These differentiated external factors show that QRIS policy implementation cannot adopt a one-size-fits-all approach, requiring dynamic collaboration between the public and private sectors, customized regulatory interventions at the local level, and sustained political commitment to digital transformation.

Despite being designed as a national standard, QRIS faces operational weaknesses at the local level. One significant issue is the unclear delineation of responsibilities among regional agencies, resulting in misdirected outreach efforts and inefficiencies in targeting potential users (Amelia et al., 2023). Additionally, the lack of periodic evaluations based on

empirical data weakens monitoring processes. The existing legal instruments do not adequately cover informal business models, which represent a primary potential user group (Ahuja et al., 2021). Furthermore, the lack of funding for long-term support and development hampers the sustainability of QRIS adoption, while the absence of a dynamic legal framework that can adapt to technological changes makes it difficult to update operational procedures in line with innovation cycles (Balakrishnan et al., 2024).

To overcome institutional misalignment in QRIS implementation, a more structured cross-institutional coordination mechanism is necessary. A key recommendation is the establishment of a National QRIS Coordination Task Force, involving Bank Indonesia, the Financial Services Authority (OJK), regional governments, financial institutions, and PSPs. This task force should be responsible for joint policy formulation, synchronized monitoring, and rapid resolution of operational bottlenecks. Regular inter-agency meetings, a unified performance dashboard, and standardized technical protocols across regions would help harmonize implementation practices. Singapore's SGQR initiative serves as an example, where the SGQR Taskforce successfully synchronized regulatory frameworks and merchant onboarding processes, enabling rapid nationwide adoption. By learning from this model, Indonesia can enhance institutional synergy, accelerate QRIS adoption in rural areas, and ensure consistent achievement of policy goals across diverse socio-economic contexts.

b. Deviations in Non-Policy Variables

QRIS adoption is significantly hindered by social and cultural barriers, particularly in traditional market environments and rural areas. A deep reliance on cash-based transactions, seen as more tangible, secure, and negotiable, is one of the strongest cultural habits impeding QRIS adoption. In traditional markets, cash exchange is not only an economic activity but also a social ritual that strengthens trust between buyers and sellers (Hamzah Muchtar et al., 2024). Additionally, bargaining, an integral part of the trading culture, is perceived to be more flexible with cash, while QRIS is viewed as rigid and impersonal, eliminating opportunities for spontaneous negotiation or discounts. This leads to emotional resistance, particularly among older merchants who see digital payment tools as disruptive to established cultural norms (Azzahroo et al., 2021). Furthermore, low digital literacy, particularly among older generations, amplifies reluctance, as these groups are often unfamiliar with smartphones, apps, and digital banking, and fear technological errors, fraud, or privacy breaches (Astari et al., 2022).

Religious and customary values also shape QRIS acceptance, with concerns about the halal status of digital payments and fears of usury (riba) further creating barriers in communities with strong religious adherence. Additionally, infrastructure limitations, such as limited access to affordable smartphones, unstable mobile internet, and the cost of data plans, exacerbate exclusion, particularly in rural and low-income areas. In these contexts, cash remains the default medium not only due to habit but also due to practical constraints. These socio-cultural, religious, and technological factors converge to sustain resistance to QRIS, especially among traditional market traders, rural populations, elderly citizens, and communities with strong ties to cash-based transactions. To overcome these challenges, QRIS implementation must address not only technological gaps but also navigate the social and cultural dynamics of target communities (Sendjaja et al., 2023).

c. Private Sector Involvement in QRIS Development

The private sector is crucial to QRIS development and expansion across Indonesia. Financial technology companies (fintechs), banks, and payment service providers (PSPs)

provide technological infrastructure and drive adoption through merchant onboarding programs, user education campaigns, cashback incentives, and seamless digital banking integration. To accelerate adoption, a structured Public-Private Partnership (PPP) model is recommended, enabling Bank Indonesia to collaborate with fintechs, banks, and mobile operators in co-investing infrastructure for underserved regions. Initiatives such as mobile training units, QRIS literacy centers, and subsidized starter kits for MSMEs could be realized through co-funding. Private actors can be incentivized through tax benefits or regulatory facilitation to expand outreach, especially to low-profit areas (Nurqamarani et al., 2024).

Additionally, financial institutions can incorporate QRIS transaction histories into credit scoring models, allowing MSMEs to access microfinance and working capital loans more easily. Developing offline-capable QRIS solutions through PPPs is also critical to ensuring usability in low-connectivity areas. By leveraging private sector innovation and market reach, complemented by strategic government regulation, QRIS can scale more sustainably and inclusively. Strengthening public-private collaboration is pivotal to embedding QRIS in daily economic activities, advancing financial inclusion, and supporting Indonesia's digital transformation (Sendjaja et al., 2023).

d. Stakeholder Roles in QRIS Implementation

The successful implementation of QRIS involves coordinated engagement among multiple stakeholders, each playing distinct roles. The government, primarily through Bank Indonesia, acts as the policymaker and regulator, setting national standards, licensing payment service providers (PSPs), and ensuring policy alignment across regions (Nurqamarani et al., 2024). Financial institutions, including banks and fintech companies, serve as technological enablers and distribution agents, responsible for developing infrastructure, onboarding merchants, providing user education, and integrating QRIS with banking services (Sendjaja et al., 2023). Technology providers, particularly PSPs and mobile network operators, support the backend systems, ensure interoperability, and innovate QRIS features for broader market penetration. Local governments also play a crucial role by issuing supportive regulations, facilitating merchant training, and coordinating public awareness campaigns. A clear division of responsibilities and active collaboration among these stakeholders is essential to bridge infrastructure gaps, address user literacy barriers, and drive equitable QRIS adoption nationwide.

e. Psychological and Emotional Factors Influencing QRIS Acceptance

The acceptance of QRIS is influenced not only by technological readiness but also by psychological and emotional factors, particularly among older users and those unfamiliar with digital technology. Emotional attachment to physical cash, fear of technological failure, and concerns about financial security contribute significantly to resistance. Technophobia and the absence of tactile interactions, such as exchanging cash, create discomfort, making it difficult to transfer trust built over years of physical transactions to an intangible digital system (Astari et al., 2022).

Additionally, the fear of fraud and a perceived loss of control, even in the presence of strong security features, further inhibit adoption, particularly among rural or older populations (Hamzah Muchtar et al., 2024). To overcome these barriers, emotional trust-building strategies are necessary, including visible endorsements by community leaders, user testimonials, and community-based mentoring. Simplifying QRIS interfaces and providing clear error recovery mechanisms can also help reduce user anxiety. Ultimately, sustained efforts to build emotional familiarity with digital transactions are essential,

especially to ease the transition for those strongly attached to cash-based systems (Azzahroo et al., 2021).

f. Evaluation of Policy Effectiveness on MSME Economic Development

The implementation of QRIS has had a significant positive impact on MSME revenue generation in Indonesia. By enabling quick, secure, and efficient transactions, QRIS allows businesses to expand their customer base, particularly among digitally literate segments. Research shows that MSMEs using QRIS have reported a 15%–20% increase in monthly sales, attributed to the convenience of transactions and growing consumer preference for cashless (Indriani et al., 2023). QRIS also reduces operational constraints tied to cash handling, such as security, transportation, and change management, allowing businesses to serve more customers and extend operating hours. This operational efficiency enhances business competitiveness, opening MSMEs to broader consumer markets, including tourists, young digital natives, and urban customers.

QRIS plays a critical role in financial inclusion by improving MSMEs' access to formal financing systems. Before QRIS, many small businesses, especially in informal sectors, lacked verifiable transaction histories required by banks and microfinance institutions. Consistent QRIS usage provides businesses with digital transaction records, serving as alternative creditworthiness indicators for lenders. This enables financial institutions to assess revenue stability and business performance, facilitating access to microloans and other credit facilities (Gunawan et al., 2023). Additionally, QRIS adoption has helped formalize MSMEs, allowing entrepreneurs to qualify for government assistance programs, digital literacy training, and tax incentives aimed at supporting small businesses.

However, the effectiveness of QRIS in promoting economic development remains uneven across regions. MSMEs in urban areas with high digital penetration and robust banking infrastructures have benefitted most, while businesses in rural areas, with limited internet access and low digital literacy, face greater barriers to utilizing QRIS for income growth or financial access. To maximize its economic impact, QRIS initiatives need to be complemented with targeted support programs, including digital training workshops, financial literacy education, and infrastructure development to address regional disparities (Sendjaja et al., 2023). Ultimately, QRIS is not just a tool for facilitating cashless transactions but also a catalyst for MSME empowerment and broader financial inclusion in Indonesia, opening doors to formal financial services previously inaccessible to small-scale entrepreneurs.

3. Strategies for Improving QRIS Implementation

Effective policy implementation requires an integrated approach that considers legal, technical, and socio-political factors. Mazmanian & Sabatier's model underscores that successful execution of policy is contingent on not just clarity of statutes, but also the tractability of problems and the surrounding political environment. These dimensions offer a comprehensive lens through which the implementation of QRIS in Indonesia can be evaluated. Current implementation efforts, while commendable, often fall short due to structural, infrastructural, and behavioral challenges. A multi-stakeholder commitment is needed to bridge these gaps, encompassing the government, private sector, academia, and civil society. Thus, continuous evaluation and iterative policy refinement become essential in adapting QRIS implementation to diverse local contexts

(Kiselicki et al., 2022). Based on the three categories proposed by Mazmanian & Sabatier, the following approaches are recommended:

a. Enhancing Technical Capacity and Literacy; The government must enhance technical competencies among business actors and the general public through community-based, regular training, utilizing vocational training centers, MSME incubators, and university partnerships as medium-term solutions. Digital literacy should be incorporated into job-preparedness and informal workforce training programs, offering incentives like subsidized internet data or digital devices (Muniarty et al., 2023). Tailored training programs should address specific sectors such as retail, transportation, and agriculture to ensure relevance, with local governments collaborating with educational institutions to provide sector-specific training. Mentorship programs from successful MSME operators who have adopted digital payments can also inspire others (Sendjaja et al., 2023). Additionally, leveraging digital ambassadors in local communities can help educate peers and ensure sustainable QRIS use, particularly in rural areas, as demonstrated by successful digital finance initiatives (Graupner et al., 2021). Long-term, embedding QRIS literacy into school and university curricula will ensure future generations are well-prepared for digital financial systems.
b. Education and Outreach; Effective education and outreach are critical to expanding QRIS adoption among MSMEs and underserved communities. Training models must move beyond one-time socialization events and adopt structured, community-based educational programs featuring hands-on demonstrations that allow merchants to practice QRIS transactions directly (Yuliati et al., 2021). Mobile training units equipped with internet access and demo devices should be deployed to rural and semi-urban areas to deliver localized sessions, supported by partnerships with cooperatives, traditional markets, and religious organizations to enhance credibility. Training materials should use local languages and visual guides to assist low-literacy users. Peer-to-peer mentoring models, where successful QRIS adopters are trained as ambassadors, can foster trust and promote organic diffusion among similar groups. Furthermore, QRIS education must be integrated into broader financial literacy initiatives run by banks, fintech companies, and government agencies, complemented by refresher workshops, user support hotlines, and mobile tutorials to ensure sustained engagement. Through a combination of practical demonstrations, localized outreach, community mentoring, and continuous digital support, QRIS understanding and usage can be effectively strengthened across all sectors of society.
c. Strengthening Governance and Regulatory Frameworks; Bank Indonesia and the Coordinating Ministry for Economic Affairs must strengthen cross-sector governance by involving regional departments and business associations. A national monitoring system, based on mobile applications, should be developed to track stagnant QRIS implementation areas, with incentives for PSPs reaching remote regions and regular performance metric publications to ensure public accountability (Sendjaja et al., 2023). Decentralizing decision-making powers to regional authorities would enable faster responses to local challenges, allowing customization of QRIS policies to suit specific demographic, economic, or infrastructural contexts and accelerate implementation (Adriyansyah et al., 2023). Additionally, public-private partnerships are essential to expand QRIS reach and ensure its sustainability, offering co-funding, technological innovations, and capacity-building initiatives to address barriers in marginalized communities with limited infrastructure or digital service access (Duykers et al., 2023).

d. Communication Strategy and Coalition Support; Policy communication strategies for QRIS must address both emotional and practical user needs by going beyond promotion to include educational campaigns showcasing success stories and their positive impact on MSME income (Nurqamarani et al., 2024). Messaging should be tailored to local languages and cultural contexts, using regional dialects and local influencers to increase trust and relatability, which are essential for behavior change (Pratiwi, 2022). Additionally, collaboration with civil society organizations is crucial to reach vulnerable groups excluded from formal economic programs, ensuring inclusivity and equity in QRIS adoption. These organizations can provide outreach, education, and support to marginalized communities, facilitating access to financial services and economic opportunities. By integrating these strategies, QRIS adoption can become more inclusive, equitable, and sustainable, paving the way for broader financial inclusion and empowering individuals and communities to thrive in the digital economy (Ramayanti et al., 2025).
e. Sustainability of QRIS Implementation; Ensuring the sustainability of QRIS requires proactive strategies that account for technological evolution, policy shifts, and changing user behaviors. Technological adaptability is crucial as advancements like blockchain payments, AI, and decentralized finance (DeFi) will necessitate QRIS evolving beyond static QR code standards. Future versions should incorporate smart QR codes with dynamic encryption, biometric verification, and blockchain wallet interoperability to remain competitive (Balakrishnan et al., 2024). Policy flexibility must also be strengthened through dynamic regulatory frameworks that allow periodic updates, agile responses, and sandbox testing to ensure QRIS governance adapts to emerging trends (Ahuja et al., 2021). Additionally, institutional resilience and multi-stakeholder partnerships are vital, with strong collaboration among government bodies, private sectors, and civil society driving infrastructure development and digital education initiatives, particularly in underserved regions (Duykers et al., 2023). At the user level, QRIS must innovate by offering features such as instant cashback, loyalty integrations, and multi-currency transaction options to meet evolving consumer expectations. QRIS must remain affordable, reliable, and simple, particularly for MSMEs and rural communities, which are essential to Indonesia's economy (Sendjaja et al., 2023). Continuous investment in digital literacy and user education is critical, with financial technology education embedded in school curricula, widespread digital awareness campaigns, and fostering a culture of lifelong digital learning (Muniarty et al., 2023). In conclusion, sustaining QRIS implementation requires a dynamic, inclusive, and future-oriented approach, combining technological innovation, regulatory agility, institutional collaboration, and robust user education to ensure QRIS remains central to Indonesia’s digital financial future.

CONCLUSION

This study analyzed the implementation of the Quick Response Code Indonesian Standard (QRIS) policy in Indonesia from 2019 to 2025, using the Mazmanian and Sabatier Policy Implementation Model. The research aimed to evaluate the effectiveness of QRIS in promoting financial inclusion, digital payment standardization, and transaction efficiency across various levels of governance and society. While the QRIS framework is well-defined at the national level, its implementation shows significant regional variance, with uneven distribution of policy clarity, institutional readiness, and user-side digital literacy. Urban areas have seen significant growth in users and merchants, but rural areas

still face major challenges, including regional disparity, inconsistent institutional coordination, and limited public trust among MSMEs (Afandi et al., 2022; Candra Sari et al., 2021). The study contributes to the literature on technology-based public policy by providing a multi-level perspective on how digital financial policies unfold in practice. It emphasizes that QRIS should be seen not just as a technological innovation but as a complex policy instrument interacting with socio economic conditions (Muchtar et al., 2024). The study highlights the need for decentralizing implementation strategies, investing in grassroots education, and designing flexible policy frameworks that cater to local contexts (Aisyah et al., 2023). Limitations include the reliance on secondary data and qualitative interpretations, which may limit generalizability, as well as the lack of first-hand interviews with MSME actors and local implementers. Future studies could use mixed-method approaches, including surveys and interviews with stakeholders, and compare regions with varying levels of QRIS adoption.

In conclusion, QRIS shows promising potential for transforming Indonesia's financial ecosystem, but its success hinges on addressing challenges like uneven institutional capacity, digital literacy gaps, and regional disparities in implementation (Afandi et al., 2022). To improve effectiveness, actionable reforms are needed, including decentralizing strategies, strengthening public-private partnerships, and establishing a national monitoring system for timely interventions (Aisyah et al., 2023; Hamzah Muchtar et al., 2024). Future research should explore the integration of emerging technologies like AI and blockchain, as well as longitudinal studies to assess the long-term impact of QRIS on socio-economic inclusion. Ultimately, QRIS must be viewed as a dynamic, inclusive policy tool that requires adaptive governance, supported by strong local institutions and participatory approaches, especially for marginalized communities (Hamzah Muchtar et al., 2024; Lonardi et al., 2021).

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