

THE DEVELOPMENT OF QRIS TECHNOLOGY IN DRIVING DIGITAL PAYMENT TRANSFORMATION IN INDONESIA: LITERATURE REVIEW

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ABSTRACT

This literature review discusses digital transformation through the implementation of the Quick Response Code Indonesian Standard (QRIS) as a national digital payment instrument. The research method used is a Systematic Literature Review (SLR) to identify and launch previous studies related to the use of QRIS in promoting financial inclusion and transaction efficiency by searching using Scopus, Web of Science, and Google Scholar published within the last 10 years. The implementation of QRIS provides convenience for businesses and consumers through practical, fast, and secure transactions, and supports more transparent financial records. This literature review also explains the main advantages of QRIS lie in interoperability, transparent costs, and a high level of trust due to being under the regulations of Bank Indonesia and the Financial Services Authority. Thus, QRIS has proven to be an inclusive digital payment solution and an important pillar in realizing an integrated and competitive national digital financial ecosystem.

Keywords: QRIS; digital payment; digital transformation; financial inclusion; interoperability

INTRODUCTION

In recent years, technological advancements have had a significant impact on the financial sector, particularly payment systems, which are undergoing a digital transformation. This digitalization includes e-wallets, QR code-based payments, and real-time payment systems, which are gradually replacing traditional cash transactions (Rika Nur Amelia et al., 2024). Electronic-based systems offer speed, ease of real-time monitoring, and neater transaction recording (Ravšelj et al., 2022). The implementation of digital-based payment systems also aims to reduce operational costs, reduce complexity, and increase accountability in the financial system (Suryanto & Dai, 2025).

In Indonesia, digital payment adoption has increased since the COVID-19 pandemic due to restrictions on physical interactions, accelerating the transition from conventional payments to digital systems (Katon & Yuniati, 2020). As a strategic step, Bank Indonesia launched QRIS (Quick Response Code Indonesia Standard) on January 1, 2020, to unify various payment QR codes under a single national standard. This innovation has received widespread support from domestic platforms such as Gopay, OVO, DANA, and LinkAja, which are examples of successful implementations (Haryanti, 2024). QRIS provides efficiency for businesses and consumers because it only requires a single QR code, while also supporting economic growth with a growing number of merchants, reaching 12 million in November 2021.

Furthermore, QRIS is also expanding internationally through cross-border collaborations. For example, integration with Thai QR Codes in August 2022, collaboration with Malaysia, Singapore, and Japan (Azka, 2023), and expansion to nine Asian countries, including Thailand, Malaysia, Singapore, the Philippines, Vietnam, Laos, Brunei Darussalam, Japan, and South Korea, was achieved by August 2025 (QRIS, 2025). Thus, QRIS not only accelerates the digitalization of domestic payment systems but also supports regional economic integration.

This literature review aims to examine the transformation of digital payments using QRIS using a Systematic Literature Review (SLR) method with a descriptive analysis approach. This research is expected to provide an understanding of the development, benefits, opportunities, and challenges of QRIS use in supporting the future national and regional digital financial ecosystem.

METHOD

The method used in this research is the Systematic Literature Review (SLR) method because the process is structured, replicable, transparent, and repeatable. The SLR method is used to identify, review, evaluate, and interpret all available research on a topic area of interest, with specific relevant research questions. Using the SLR method, a systematic review and identification of journals can be conducted, with each process following predetermined steps or protocols (Crisnaldy, 2021). The databases searched included Scopus, Web of Science, and Google Scholar. Keyword searches are considered an appropriate method for finding articles relevant to the research objectives (Abdullah & Naved Khan, 2021).

RESULTS AND DISCUSSION

QRIS Users and Transaction Volume

According to statistical data from the Indonesian Payment Systems Association (ASPI), QRIS user registrations increased from 18 million in March 2022 to 57 million in June 2025. Meanwhile, merchant

transactions also increased, with the largest contributions coming from Small Enterprises, followed by Large Enterprises, and Micro Enterprises.

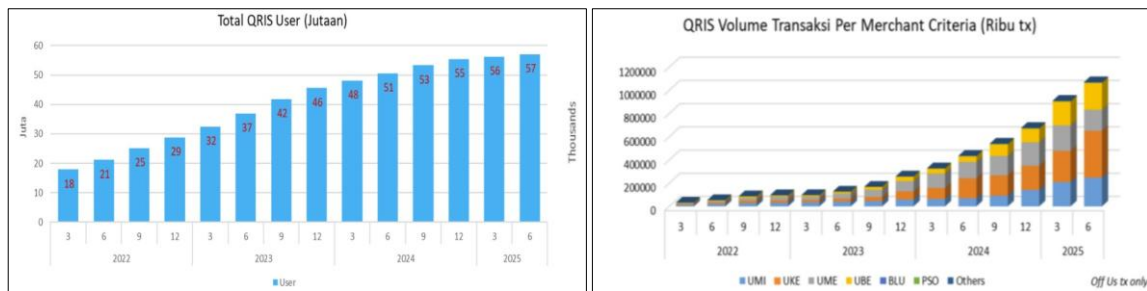


Figure 1. QRIS Users and Transaction Volume

(Source: Indonesian Payment Systems Association)

The statistics above show a significant increase in QRIS usage and transaction volume. Other abbreviations in the transaction volume chart include Medium Enterprises, Public Service Agencies, and Public Service Obligations.

Digital payments in Indonesia are currently growing and becoming increasingly unstoppable, especially considering the highly attractive digital transaction amounts. The high transaction amounts using digital payment methods indicate that people who choose this method prioritize ease of transactions, supported by the internet or applications provided by various companies or business platform providers (Maysari, et al., 2023).

QRIS Implementation

As a game changer in the world of digital payments, QRIS is not only a practical solution for users but also supports economic growth, especially for MSMEs. In an era of economic disruption, digitalization is increasingly evident and a strategic step for MSMEs to survive and play a leading role in economic recovery. This new paradigm in the digitalization of the financial sector is due to innovations in the transformation of payment systems that introduce ease, practicality, accessibility, convenience, and more economical costs (Muhammad, et al., 2024).

Business management is made easier with QRIS, eliminating the need for change and reducing the risk of counterfeit money, making it easier to manage cash flow for entrepreneurs, especially MSMEs. The concept of payment via QRIS is quite practical because it uses a single QR code that can be quickly accessed by all users via mobile phones and can be paid through various digital wallets (Kristia & Ahmadi, 2024). Based on previous research on consumers view, they stated that payments with QRIS are faster and more efficient, in line with the previous sentence, namely reducing time without waiting for change and not requiring cash or physical cards and can be paid from digital wallets or various applications (Andhika, et al., 2025). In addition, the use of digital payments not only provides convenience for users, but also makes it easier to record transactions and track transaction records (Mubarak, et al., 2022).

QRIS Interoperability

According to Bagaskoro's study, which compared QRIS with conventional digital wallets, three constructs of effectiveness exist in digital payment systems, including transaction speed, cost, and trust. Data analysis from the study revealed that transaction speed is still superior using conventional digital wallets, but the difference is not significant. In terms of cost satisfaction, QRIS is superior using because consumers are not charged administrative fees and are more transparent. Furthermore, in terms of trustworthiness, QRIS is also superior because it is officially regulated by Bank Indonesia (BI) and the Financial Services Authority (Bagaskoro, 2025). This statement is supported by the fact that users feel safe seeing the BI logo on QRIS posters (Wibowo et al., 2023). The main advantage of QRIS is interoperability, meaning that payments can be made to any merchant using only a bank application or digital wallet, supporting national inclusion policies (Bagaskoro, 2025).

QRIS Opportunities

The presence of QRIS as a digital payment system offers MSMEs significant opportunities to increase their revenue, allowing them to accept payments from various platforms without requiring significant hardware investments. This affects increased revenue, with some merchants reporting a 5-10% increase in daily sales after using QRIS (Putri & Radiman, 2022). Furthermore, every transaction through QRIS is automatically recorded, simplifying bookkeeping. For merchants, transaction recording provides opportunities for applying for capital loans, paying taxes, bills, and purchasing goods cashlessly (Angarani, 2022).

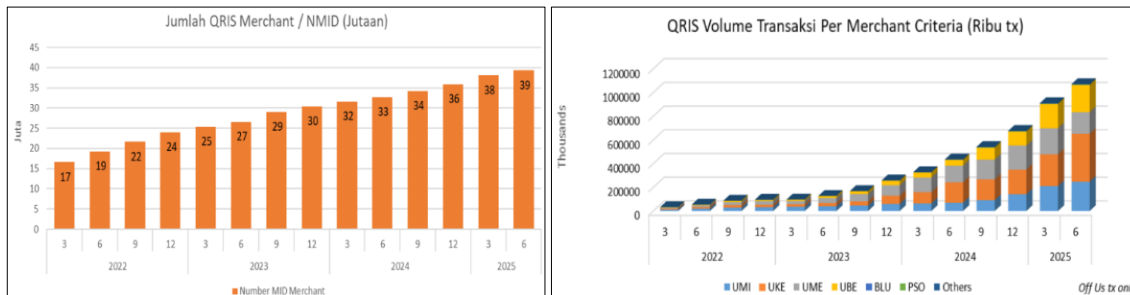


Figure 2. QRIS Merchant Growth and Transaction Volume

(Source: Indonesian Payment Systems Association)

Based on ASPI statistical data, the growth in QRIS use as a payment method among MSMEs has increased gradually from year to year. In line with the growth in the number of MSMEs using QRIS, the annual transaction volume has also increased continuously. This proves that public trust increases when they use QRIS, and that MSMEs can provide convenience and a good impression to their consumers. The younger generation prefers digital payment methods because QRIS simplifies transactions and can be used by consumers of all ages (Kholifa, et al., 2024). QRIS also provides convenience by using just one QR code. Transactions can be carried out quickly by simply encoding a single QR code by all payment operators on the mobile phone. Using a single QR code to accept payments from various funding sources and payment methods, this system can increase transaction convenience (Putri & Radiman, 2022).

QRIS Challenges

While the QRIS service certainly makes things easier for both users and business owners, there are several challenges faced in using QRIS. Previous research indicates an infrastructure gap among communities, especially in rural areas, where they tend to use cash and have difficulty using technology or do not yet have devices (Pancawati et al., 2025). Therefore, interventions that can be implemented include conducting outreach to entrepreneurs and the community regarding QRIS use through door-to-door visits, seminars, and other methods to teach QRIS usage (Azhari & Harahap, 2023). Administrative fees are not charged to consumers but to merchant owners using a Merchant Discount Rate (MDR) system of 0.7%. Phishing or fake websites impersonating service providers, such as QR scanners, have the potential to hack users, and fake QRIS systems can lead consumers to transact with incorrect QRIS codes (Andhika et al., 2025). Therefore, users are expected to exercise caution before making transactions.

CONCLUSIONS

QRIS has demonstrated a significant role in driving digital payment transformation in Indonesia. The increase in the number of users from 18 million in 2022 to 57 million in 2025, along with the growth in transaction volume across business sectors, confirms the widespread acceptance of this system. QRIS implementation provides convenience for both businesses and consumers through more efficient, secure, and practical transactions. The advantages of interoperability, transparent fees, and official regulatory support from Bank Indonesia and the Financial Services Authority further strengthen user trust. Thus, QRIS is not only an inclusive digital payment instrument but also a crucial pillar in realizing a more integrated and competitive national digital financial ecosystem. Despite several challenges, it is hoped that QRIS implementation will continue to develop further.

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