

ADVANCING MSMEs THROUGH GLOBAL INTEGRATION AND CROSS-BORDER CONNECTIVITY: OPPORTUNITIES FOR QRIS-BASED PAYMENT CODE DEVELOPMENT

Dona Putri Metri

Universitas Indonesia, Depok, Indonesia

E-mail: Dona.putri11@ui.ac.id¹

ABSTRACT

The rapid development of the Indonesian economy in the digital era has witnessed a significant shift from cash-based public payments to digital systems. Digital payments offer increased convenience, efficiency, security, and ease of use. Among these digital payment methods, QR Codes have emerged as an important solution, especially during the COVID-19 pandemic, which caused the Indonesian economy to decline due to the implementation of social policies. The adoption of Quick Response Indonesian Standard (QRIS) as a non-cash payment method by the majority of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia presents a promising solution due to its various advantages, including instant payments, enhanced security, easy setup, durability high, and there are no associated costs. However, QRIS payments face limitations because they cannot be accessed by foreigners who do not have a bank account or connection to an Indonesian payment operator. To overcome these challenges, the Indonesian government has collaborated with four ASEAN countries to integrate the QRIS system with their respective user bases. However, the global use of QRIS is still a problem that this research aims to overcome. One approach to encouraging cross-border QR payment cooperation is to encourage the economic progress of MSMEs in each country. This study aims to highlight significant opportunities for developing integrated connectivity and cross-border QR code payments in Indonesia. This research uses a qualitative approach by conducting research on secondary data through publicly available publication sources. The study aims to obtain a comprehensive understanding of the subject matter by analyzing existing data and information from various sources that can be accessed by the public. The increasing number of QRIS users in Indonesia provides a great opportunity for QRIS to integrate into international financial networks, thereby increasing Indonesia's position in global economic diplomacy. The increasing adoption of QRIS reflects the country's readiness for digital payment solutions, thereby increasing its credibility in international economic discussions. This trend also shows Indonesia's potential to contribute actively to shaping global financial standards and practices, as well as encouraging economic collaboration with other countries. Further research is needed

to advance prototype development, design, and implementation of integrated connectivity and QR payment linking across borders on a global scale.

Keywords: Digital payment; Global; MSMEs; QR Code; QRIS

Introduction

The Fourth Industrial Revolution, which has also brought about changes in Indonesian transactional practices, has accelerated the development of the country's economy (Dewi et al., 2022). Before the advent of technology, cash payment was the predominant method employed by the majority of Indonesians (Dewi et al., 2022). In various industries, including traditional marketplaces and street food, cash was the preferred mode of payment. However, in the contemporary digital era, financial transactions have shifted from traditional methods to digital-based systems. The introduction of financial technology (fintech) firms offering a range of payment applications for smartphones has prompted the banking sector, which had previously focused on cash and card transactions, to adopt various digital payment systems such as mobile payments, mobile banking, and digital wallets (Upadhayaya, 2012); (Megadewandanu, 2016). These digital payment systems not only enhance usability, efficiency, and convenience but also provide significant improvements in the overall payment experience.

Financial innovation that combines modern technology is commonly referred to as "fintech," a term used to describe the fusion of technological and financial components (Gusfei & Pradana, 2022). The emergence of fintech coincided with a shift in people's lifestyles, as they became more reliant on information technology and had increasingly demanding daily schedules. Bank Indonesia Regulation No. 19/12/PBI/2017, summarized on the Bank Indonesia website (2017), categorizes fintech into five distinct categories: lenders, market support, investment management and risk management, payment systems, and financing and capital providers, as well as other financial services (Rachmawaty et al., 2021). Each category serves different financial transaction needs within society (Kartawinata et al., 2021).

Fintech usage offers solutions for payment-related issues, buying and selling transactions, and consumer banking services. It streamlines buy-and-sell transactions, enhancing efficiency, economy, and the effectiveness of the payment system (Bank Indonesia, 2019). The rapid development of technology and digitalization associated with the adoption of financial technology is expected to create a disruptive environment. These changes will be evident in our financial transactions, the utilization of financial

products and services, and the search for income sources (Gusfei & Pradana, 2022), particularly regarding economic activity funding. To keep up with the dynamic market, the financial sector must continuously adapt and refine its operating processes (Savitri et al., 2022)

According to data from Bank Indonesia, the period between 2013 and 2018 witnessed significant changes in payment methods. Debit card usage rose by 14.73%, credit card usage grew by 7.33%, and digital payments experienced substantial growth at 87.22%. This demonstrates a clear shift towards digital payment methods. The public's awareness and adoption of digital payments have also increased. The volume of digital payment transactions saw a remarkable increase of 209.83% in 2017, reaching a total of 2,922,698,905 transactions. In addition, the total value of digital payments in circulation in 2018 amounted to IDR 47 trillion, reflecting a growth of 281.39% compared to the previous year (Bank Indonesia, 2019).

Considering the rapid growth in digital payment users and their usage rates, it is crucial to integrate digital payment systems for future development. Two primary types of digital payment methods are e-money and electronic wallets. By utilizing an electronic wallet, your smartphone can act as a virtual leather wallet, enabling you to store digital receipts, cards, and coupons, and conduct transactions. With the availability of e-wallet services, customers can download applications from online shops on their smartphones and use them for both online and offline purchases. Looking ahead, mobile wallets and cloud-based solutions are expected to offer users more convenient payment options by incorporating advanced technologies such as Near Field Communication (NFC), sound waves, and QR codes, which seamlessly connect cell phones to the physical world (Husson, 2015).

Digital payments, particularly those utilizing QR Codes, have emerged as a crucial solution during the COVID-19 pandemic, which severely impacted the Indonesian economy. The implementation of social restrictions as a response to the pandemic led to hindered growth for various businesses. Micro, Small, and Medium Enterprises (MSMEs) in Indonesia faced significant challenges, including funding shortages, reduced business turnover, and distribution issues. In a virtual training session conducted by the Indonesian Central Bank (BI), it was revealed that the COVID-19 impact resulted in the closure of over 30 million MSMEs, predominantly

microbusinesses, between 2020 and December 2021. The tourism sector was reported to be the most affected among the failed MSMEs (Nafisa et al., 2022).

As per Ulya (2020), digital transactions, encompassing transfers and banking transactions, experienced a year-on-year (YoY) growth of 37.8%. The COVID-19 pandemic has contributed to an increased interest in digitalization among the public (Ulya, 2020). The adoption of non-cash payment methods saw a rise due to the celebration of the 74th anniversary of Indonesian Independence Day on August 17, 2019. The Indonesian Quick Response Standard (QRIS) was officially introduced by Bank Indonesia and the Financial Services Authority (OJK) at the Bank Indonesia headquarters and has been implemented nationwide since January 1, 2020. Since the implementation of the Indonesian QRIS, Bank Indonesia reported notable increases in its usage across different merchant groups as of July 3, 2020: large merchants increased by 47% to 190,706; merchants increased by 26% to 333,992; small and medium enterprises (SMEs) experienced a 125% rise, reaching 685,328; micro, small, and medium enterprises (MSMEs) increased by 9% to 2,603,516; and finally, public service providers rose by 23% to 59,236 (Agustin, 2023).

With sales areas that are developing using an online purchasing and selling system, QRIS deployment for large to small enterprises is anticipated to make these businesses competitive in the age of globalization. For instance, Micro, Small, and Medium Enterprises, which make up 56.54 million units or 99.99% of all business actors in Indonesia, play a significant role in the country's economy. When the Indonesian financial crisis of 1998 hit, MSMEs in this country's economy proved their existence. Small and medium-sized firms are the only ones that can survive in comparison to giant corporations since they do not need significant amounts of money or loans in foreign currencies, while large corporations risk experiencing a financial crisis when exchange rates shift. 2022) Sihite, M. T., et al. Even after the COVID-19 pandemic subsides, a majority of MSMEs in Indonesia are expected to continue utilizing QRIS as a cashless payment method due to its numerous advantages, such as fast payments, security, ease of setup, reliability, and absence of additional fees. However, it is unfortunate that initially QRIS usage was limited to individuals with accounts registered with Indonesian banks or phone numbers in Indonesia. This poses a challenge for tourists visiting Indonesia for holidays or non-urgent work matters, as they are unable to utilize the QRIS system to access services, purchase goods, or dine at merchants. Given the already well-integrated system, it would be beneficial to expand the use of QRIS to both tourists and

Indonesians. This would not only facilitate access to Indonesian MSMEs for international visitors through the cashless payment system but also support the international advancement of Indonesian MSMEs, benefiting both sellers and buyers (Sihite & Hartomo, 2022).

In response to the outcomes of the recent G20 conference, Malaysia, Singapore, Thailand, the Philippines, and Indonesia have initiated efforts to establish an integrated QR payment linkage and have commenced testing. However, many of the nations that visit Indonesia, including Malaysia, Timor-Leste, Australia, Singapore, India, the United Kingdom, the United States, France, Germany, and China, have not reached a mutual agreement on an MOU for cross-border QR payment connection.

The diplomatic and economic benefits for Indonesia from such collaboration are substantial. If many Micro, Small, and Medium-sized Enterprises (MSMEs) in the host country of visitors adopt QR payment methods, this collaboration can also yield advantages for those MSMEs. The design and implementation of integrated connectivity and cross-border QR payment codes can be further developed on an international scale, transcending national boundaries. This holds significant promise for enhancing Indonesia's economic diplomacy efforts.

This research will use Economic Diplomacy as the tool for analysis. From the liberalism perspective, economic diplomacy is viewed as a tool used by states to pursue and achieve economic security within the anarchic international system (Hutabarat & Damayanti, 2023). States aim to understand international economic interactions based on economic interests. Liberalism emphasizes the interdependence among states in the international political economy and the importance of economic cooperation for mutual benefit.

Economic diplomacy theory encompasses the principles, strategies, and practices that countries utilize to advance their economic interests through diplomatic channels. It involves leveraging diplomatic tools and negotiations to promote trade, attract investments, secure economic partnerships, and enhance economic security. This approach aims to facilitate international trade agreements, reduce trade barriers, and improve market access for domestic businesses. Additionally, economic diplomacy focuses on attracting foreign direct investments by creating a conducive investment environment, offering incentives, and fostering economic collaborations. Countries

engage in diplomatic negotiations to establish bilateral and multilateral agreements on various economic issues, including trade, investment, taxation, and intellectual property rights. Moreover, economic diplomacy plays a crucial role in safeguarding a nation's economic interests, ensuring energy security, managing economic crises, and mitigating risks to the economy. Overall, economic diplomacy guides countries in utilizing diplomatic means to strengthen economic relationships, achieve sustainable economic growth, and promote overall economic development.

Research Method

This research employs a qualitative methodology to gain a profound understanding of the phenomena under investigation. Qualitative methodology enables researchers to explore the nuances, contexts, and meanings embedded within the data, as well as facilitate a deeper analysis of the subjective and complex aspects of this phenomenon. In this study, data were collected by analyzing documents to comprehend the perspectives, attitudes, and experiences of the respondents related to the research topic. Qualitative methodology was chosen because it can provide rich and in-depth insights into the phenomenon being studied.

Result and Discussion

The Fourth Industrial Revolution and the contemporary digital era have significantly accelerated Indonesia's economic growth, consequently driving changes in the country's transactional practices. To facilitate the ongoing digitization of Indonesia, the government is actively supporting initiatives to expand the adoption of cashless payment systems, catering to both large enterprises and small traders.

Accepting payments through the QR Code system benefits both buyers and sellers. The QR Code serves as a convenient substitute that can be scanned using any smartphone camera. Even in situations with multiple instances of faulty codes, the error correction capability of QR Codes aids in data repair. Nowadays, smartphones come equipped with software capable of deciphering QR codes (Chang, 2014)

The QR Code Indonesian Standard (QRIS) is a payment system that standardizes transactions through the utilization of QR Codes, based on a shared delivery channel. This system was developed by Bank Indonesia and the Indonesian Payment System Association or Asosiasi Sistem Pembayaran Indonesia (ASPI). QRIS adheres to the International Standard EMVCo (Europe MasterCard Visa) as its primary standard,

enabling interconnection and interoperability between providers, tools, and nations (Nafisa et al., 2022).

Merchants, including stores, parking lots, stalls, tourist tickets, and donations, that display the QRIS emblem can accept payments using the latest financial technology through QRIS. This includes payment applications from both bank and non-bank operators (ENDARWATI & Wijaya, 2022). Notably, popular digital payment systems like Shopeepay, DANA, OVO, Gopay, and Linkaja can all utilize QRIS. This approach supports economic recovery and the preservation of Micro, Small, and Medium Enterprises (MSMEs).

Several studies conducted in Surabaya, Palangkaraya, and Yogyakarta have shown that the use of QRIS enhances the productivity of UMKM, particularly in bookkeeping and transaction convenience. The research findings indicate that implementing QRIS technology has resulted in improved efficiency and streamlined processes for small and medium enterprises in these regions. The utilization of QRIS offers various advantages for businesses and consumers alike. Firstly, QRIS enables quick and convenient transactions without the need for physical cash, making payments more efficient and reducing the risk of errors in change. Secondly, QRIS promotes financial inclusion by providing a digital payment option that is accessible to a wider range of individuals, including those without traditional bank accounts. Additionally, QRIS enhances transparency in transactions, as digital records are automatically generated, aiding in better bookkeeping and financial management for businesses. Lastly, the use of QRIS contributes to a more secure payment environment, reducing the reliance on physical money and minimizing the risk of theft or loss.

In Indonesia, the adoption of QRIS is widespread (Kudu, Pekereng, & Kelen, 2023). The data provided indicates a significant growth trend in the adoption of QRIS in Indonesia over the years. According to Bank Indonesia data, by the end of 2021, the number of QRIS users reached 15.95 million. This number experienced a substantial increase to 28.75 million users by the end of 2022, showcasing a growing acceptance of QRIS as a payment method in the country. Furthermore, at the beginning of 2023, there was another surge in QRIS users, totaling 30.87 million. It is noteworthy that out of this total, 24.9 million users were identified as merchants utilizing QRIS for their transactions. This data highlights the expanding popularity of QRIS among both consumers and

businesses in Indonesia, indicating a positive trend towards digital payment adoption and financial inclusion.

The continuous increase in QRIS users reflects the ongoing efforts to promote cashless transactions and enhance the digital payment ecosystem in Indonesia. This growth trend signifies a shift towards a more efficient, secure, and convenient payment landscape, benefiting both consumers and businesses across the country. The government has also established partnerships with QRIS users in several ASEAN nations, such as Thailand, Malaysia, the Philippines, and Singapore. QRIS can currently only be utilized in Indonesia by banks or non-bank entities, limiting its use. However, operators or banks from countries other than the aforementioned four ASEAN nations are not permitted to use QRIS, which is unfortunate. The objective of this research is to create opportunities for the global integration of QRIS, enabling foreign visitors to Indonesia to make payments using QRIS.

The research aims to merge user information from the existing Mastercard and Visa systems with the QRIS system. This analysis focuses on the Mastercard and Visa international card networks due to their global superiority over other network cards. The following table presents a comparison:

Table 1. Quick facts comparing 3 biggest card networks: Visa, MasterCard, and American Express

Category	Visa	MasterCard	American Express
Domestic Acceptance	10.7 million	10.7 million	10.6 million
International Acceptance	200+ countries and territories	210+ countries and territories	160+ countries and territories
Cards in Circulation in the U.S. in 2019	333.1 million	243 million	54.7 million
Global Merchants	52.9 million	52.9 million	25.3 million
Purchase	8.945 trillion	4.767 trillion	1.225 trillion

Category	Visa	MasterCard	American Express
Volume (Debit/Credit) in 2019	(4.890 credit, 4.055 debit)	(3.015 credit, 1.752 debit)	(credit only)
Card Transactions in 2019	185.5 trillion	108.4 trillion	8.8 trillion
Zero liability for:			
Fraud Liability	Zero liability for:	<ul style="list-style-type: none"> • Credit card transactions • Signature debit card transactions (if processed by Visa) 	Zero liability for: Credit card transactions
	<ul style="list-style-type: none"> • Credit card transactions • Signature debit card transactions (if processed by Visa) 	<ul style="list-style-type: none"> • Credit card transactions • Signature debit card transactions (if processed by Mastercard) 	
Card Terms	Visa doesn't set APRs, fees, or rewards.	Mastercard doesn't set APRs, fees, or rewards	Refer to American Express's terms and conditions

(PayCEC, 2023), 2022; (Rodriguez, 2023)

In comparison to other credit cards, Mastercard and Visa have the largest acceptance networks globally. Leveraging these two credit card sources facilitates the international implementation of QR code payment integration.

User applications featuring the Mastercard or Visa logos can incorporate the QRIS menu as one of the QR payment alternatives, enabling seamless integration. With the

integration of Mastercard and Visa data with QRIS, users worldwide possessing payment tools with the Mastercard or Visa emblem can utilize QRIS to make purchases at merchants. This global integration is particularly significant considering that Mastercard and Visa are the two largest network cards in terms of user base. Therefore, issues faced by visitors unable to utilize QRIS can be resolved.

Furthermore, this integration brings benefits to the MSME entrepreneur community in Indonesia. By providing access to goods and services for foreigners from all nations who have access to Mastercard and Visa, the perception of the local community towards MSMEs is enhanced. In addition to significant investments in contactless payments, certain markets have adopted QR codes to provide merchants of all sizes, including international chains, independent store owners, and street sellers, with a quick, secure, and affordable option to receive payments.

Merchants will be able to scan QR codes from smartphones and process payments through the Mastercard network, utilizing M/Chip technology to ensure secure payment transactions within the EMV infrastructure.

Indonesia is currently engaging in economic diplomacy by strengthening the utilization of QRIS (Quick Response Code Indonesian Standard) as part of its economic strategy. By promoting and expanding the use of QRIS, Indonesia aims to enhance its economic ties and facilitate seamless financial transactions both domestically and internationally. This initiative not only boosts the efficiency of payment systems but also showcases Indonesia's commitment to embracing digital innovation and fostering economic growth through technological advancements. The widespread adoption of QRIS not only simplifies payment processes but also signifies Indonesia's proactive approach to leveraging digital solutions to enhance economic cooperation and connectivity with global partners.

Indonesia's economic diplomacy strategy includes actively involving Micro, Small, and Medium Enterprises (MSMEs) in the adoption of QRIS technology. By encouraging MSMEs to utilize QRIS for their transactions, Indonesia aims to boost the efficiency and competitiveness of these businesses in the digital economy. The increased participation of MSMEs in QRIS usage not only enhances their economic performance but also demonstrates Indonesia's commitment to empowering small businesses through digital innovation.

Moreover, the tangible evidence of improved economic outcomes for MSMEs following the adoption of QRIS can serve as a strong bargaining chip for Indonesia in promoting QRIS penetration abroad. The success stories of MSMEs thriving post-QRIS implementation showcase the positive impact of digital payment solutions on business growth, revenue generation, and market expansion. By highlighting these success stories and the economic empowerment of MSMEs through QRIS, Indonesia can strengthen its position and credibility in advocating for QRIS adoption internationally. This, in turn, enhances Indonesia's influence and competitiveness in promoting QRIS utilization beyond its borders, positioning the country as a leader in digital economic diplomacy. The increasing number of QRIS users can also serve as leverage for integrating QRIS into the international payment system. As the adoption of QRIS grows domestically, Indonesia can showcase the widespread acceptance and usage of this technology as a testament to its efficiency and reliability. A large user base indicates the popularity and trust in QRIS as a secure and convenient payment method, which can bolster Indonesia's position in advocating for the integration of QRIS into the global payment ecosystem.

By demonstrating the scalability and success of QRIS within its borders, Indonesia can present a compelling case for the international recognition and interoperability of QRIS. The expanding user base not only signifies the readiness of consumers and businesses to embrace QRIS but also reflects Indonesia's commitment to advancing digital payment solutions on a global scale. This growing momentum can strengthen Indonesia's bargaining power and influence in negotiations to integrate QRIS into international payment networks, positioning QRIS as a viable and competitive option for cross-border transactions.

To implement this collaborative agenda, discussions need to take place between the Indonesian government (specifically the agency responsible for QRIS, Bank Indonesia), Mastercard, and Visa executives. The research process is ongoing, and this represents just the initial stage of an idea that requires further development, including the creation of a prototype or design, and the subsequent international deployment of the QRIS system by incorporating user information associated with the Mastercard and Visa logos

Conclusion

The successful implementation of QRIS in Indonesia presents a significant opportunity for the country to enhance QRIS penetration, especially in the realm of international

payment systems. While QRIS has gained widespread acceptance and utility within Indonesia, challenges may arise for foreign users unfamiliar with the system. However, Indonesia can leverage its experience and expertise in QRIS implementation to address these challenges and promote the integration of QRIS in other ASEAN countries.

The integration of QRIS across several ASEAN nations not only facilitates regional economic cooperation but also opens doors for Indonesia to strengthen its position in advancing QRIS as a standardized payment solution internationally. By spearheading efforts to harmonize QRIS usage and interoperability among ASEAN countries, Indonesia can showcase its leadership in promoting digital payment innovations and fostering economic connectivity within the region.

The involvement of MSMEs in the QRIS ecosystem is also a crucial component in expanding QRIS penetration, as it strengthens the participation of small and medium-sized enterprises in adopting digital payment technology. By engaging MSMEs in utilizing QRIS, Indonesia not only promotes financial inclusion for small businesses but also enhances the country's competitiveness in the digital economy.

This strategic initiative not only enhances Indonesia's economic diplomacy efforts but also underscores the country's commitment to driving digital transformation and financial inclusion on a global scale. By championing the integration of QRIS in international payment systems, Indonesia demonstrates its proactive approach to shaping the future of digital finance and solidifying its role as a key player in the evolving landscape of economic diplomacy.

Acknowledgment

We would like to express our deepest gratitude to supervisor Ali Abdullah Wibisono Ph.D and all parties who have contributed to this achievement. Without the hard work and tireless support of all parties, this article would not have been possible.

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