

## The Effectiveness of Quick Response Code Indonesian Standard (QRIS) in Increasing MSME Transactions at Car Free Day in Merdeka Square, Medan

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### Abstract

This study aims to analyze the effectiveness of the use of the Quick Response Code Indonesian Standard (QRIS) in increasing MSME transactions at Car Free Day in Lapangan Merdeka, Medan City. The independent variables in this study are the ease of use of QRIS and trust in the use of QRIS, while the dependent variable is the increase in MSME transactions. This study is motivated by the development of digital technology, which has encouraged the transformation of non-cash payment systems in the MSME sector. Although QRIS has been widely adopted, several obstacles still exist, such as limited technological understanding and low levels of trust in digital payment systems. This study employed a quantitative research method with an associative approach. The population consisted of all culinary business actors at Car Free Day in Lapangan Merdeka, Medan City. The sampling technique used purposive sampling with a total of 45 respondents. Data were collected through questionnaires and analyzed using Structural Equation Modelling (SEM) based on Smart PLS. The results indicate that the ease of use of QRIS has a positive and significant effect on increasing MSME transactions, with a path coefficient value of 0.612 and a p-value of 0.000. Trust in the use of QRIS also has a positive and significant effect on increasing MSME transactions, with a path coefficient value of 0.684 and a p-value of 0.000. Furthermore, the ease of use and trust in the use of QRIS simultaneously enhance the effectiveness of MSME transactions at Car Free Day in Lapangan Merdeka, Medan City. This study shows that the ease of use and trust in QRIS are important factors in increasing the adoption of digital payments among MSMEs. The use of QRIS provides convenience, security, transaction efficiency and supports the digital transformation of MSMEs in the digital economy era.

**Keywords:** QRIS, Ease of Use, Merdeka Square Medan, MSME Transactions, Car Free Day

### Introduction

Advances in digital technology have driven the transformation of payment systems from cash-based to cashless transactions in Indonesia (Usman et al., 2025). Innovations in digital finance continue to evolve, one of which is the implementation of the Quick Response Code Indonesian Standard (QRIS) as the national standard for QR code-based payments (Gunawan et al., 2023) and (Yani Xie & Zheng, 2026). QRIS is designed to simplify transactions, improve efficiency, and expand financial inclusion, particularly for Micro, Small and Medium Enterprises (MSMEs) (Ramayanti et al., 2025) and (Jeanne Adeline Savitri, 2025). The use of QRIS is becoming increasingly relevant as public preference grows for transactions that are fast, convenient, and involve minimal physical contact (Supriyadi & Nurhuda, 2025) and (Almira et al., 2024).

However, the adoption of QRIS among MSMEs still faces various challenges (Amelia et al., 2024). Not all MSME actors are able to utilize this technology optimally (Fauziah et al., 2025). Some still experience difficulties in using the application, have limited technological understanding, and harbor doubts regarding the security of digital payment systems (Ayuni et al., 2025) and (Supriyadi & Nurhuda, 2025). In addition, some consumers remain accustomed to using cash, meaning that the use of QRIS has not yet significantly increased transactions (Fitriani et al., 2026) and (Ayuni, 2022).



This condition indicates that the success of QRIS implementation depends not only on the availability of technology but also on user perceptions (Ramayanti et al., 2025) and (Langevin, 2025).

Previous studies have shown that ease of use and trust influence the adoption of digital payment technologies (Gimeno-Arias et al., 2024) and (Ziyang Liu, 2026). However, the findings of these studies still vary, particularly when viewed from the perspective of location and business characteristics (Sang et al., 2024) and (Febrianita et al., 2023). Furthermore, there is still limited research specifically examining the effectiveness of QRIS in increasing MSME transactions during crowd-based economic activities such as Car Free Day. Therefore, further research is needed to address this gap, particularly within the local context of Medan City.

This study focuses on analyzing the effect of the ease of use of QRIS and trust in the use of QRIS as independent variables on the increase in MSME transactions as the dependent variable. Ease of use refers to the extent to which QRIS can be understood and practically used by business actors and consumers, while trust refers to the level of user confidence in the security and reliability of the QRIS system. Meanwhile, the increase in MSME transactions is measured through changes in transaction volume, frequency, and value. Based on the description above, the purpose of this study is to analyze the effectiveness of QRIS in increasing MSME transactions at Car Free Day in Lapangan Merdeka, Medan City, and to determine the effect of ease of use and trust on increasing MSME transactions.

## Theoretical Review

### Quick Response Code Indonesian Standard (QRIS)

Bank Indonesia and the Indonesian Payment Systems Association (ASPI) developed the national QR code standard known as the Quick Response Code Indonesian Standard (QRIS) to facilitate payment transactions in Indonesia in an easy, secure, and fast manner (Yalda & Khan, 2026). On August 17, 2019, QRIS was introduced as part of an initiative to promote financial inclusion and the digitalization of the national payment system (Napitupulu, 2025) and (Rahman et al., 2025). Prior to the implementation of QRIS, different Payment System Service Providers (PJSs) used different QR code formats, which often caused confusion among consumers and business actors (Asiri et al., 2024). The establishment of this standard has simplified non-cash transactions for both merchants and customers through the implementation of QRIS (Nasib et al., 2026). The year 2020 marked the beginning of the widespread adoption of QRIS by a large number of payment service providers in Indonesia (Sindy et al., 2026). This initiative improved the uniformity and clarity of the electronic payment system. By the end of 2023, QRIS had become a digital payment option for nearly 30 million MSMEs, indicating a significantly higher level of digital technology adoption within the MSME sector. In addition to supporting MSMEs, the use of QRIS also contributes to overall economic growth (Khairani et al., 2025). Payment transactions have become safer, faster, and more efficient as the adoption of QRIS continues to expand. This reduces dependence on cash and increases productivity (Hamzah et al., 2024). Financial technology (*fintech*) has significant potential to become a major driver of MSME growth in Indonesia (Herlina et al., 2025). Through innovations such as QRIS and other digital financial services, fintech can contribute significantly to expanding financial access and encouraging economic growth in Indonesia (Pebriani et al., 2025). Therefore, this study aims to analyze the effectiveness of QRIS implementation in improving the competitiveness of MSMEs and to identify effective strategies for enhancing the understanding and adoption of QRIS among MSMEs in Indonesia (Ndlovu et al., 2025).

### Trust in QRIS

Trust is formed when individuals follow or accept something because it is believed to be good, appropriate, and universally accepted as truth and virtue (Mowen, 2025). Building trust is very important because it serves as the foundation for long-lasting relationships and sustainable brands. According to (Manalu et al., 2025), trust is a key aspect in developing a long-term desire to maintain a relationship. Building trust can be challenging, especially when a company is compared with other companies. This condition may cause customers to worry that the products or services received may

not meet their expectations. According to (Birigozzi et al., 2025), trust is a concept, feeling, emotion, or behavior that occurs when customers believe that they can rely on a provider to act in their best interests and are willing to place confidence in that provider. Furthermore, according to (Alamsyah et al., 2025), there are five aspects that influence consumer trust. First, benevolence, which refers to good intentions and the belief that a trusted party will act in the customer's best interests and will not exploit the trust given (Mualifah & Muharrami, 2025). Second, reliability, which refers to the ability of a party to consistently provide what customers or organizations need when required (Primasari et al., 2025). Third, competence, which relates to the expertise and knowledge possessed by a party to fulfill customer needs. Fourth, honesty, which refers to the extent to which statements or promises can be fulfilled (Nugraheni & Darma, 2025). Finally, openness refers to the willingness to disclose or provide the information needed by customers. In this study, the indicators of trust include reputation, sense of security, and service quality (Toni et al., 2025).

### **Increase in MSMEs Transactions**

Based on Law No. 20 of 2008 concerning Micro, Small, and Medium Enterprises (MSMEs), businesses operated by individuals or business entities are classified based on predetermined criteria. Article 6 explains that a Micro Enterprise is a business with a maximum net worth of IDR 50,000,000, excluding land and buildings used for business operations. Furthermore, a Small Enterprise is defined as a business with a net worth of more than IDR 50,000,000 up to a maximum of IDR 500,000,000, excluding land and buildings used for business activities. Meanwhile, a Medium Enterprise is a business with a net worth of more than IDR 500,000,000 up to a maximum of IDR 10,000,000,000, excluding land and buildings used for business operations. The development of MSMEs can be measured through increases in the number of employees and annual business income. Likewise, business income can indicate business growth. If the annual income of a micro enterprise exceeds IDR 300,000,000 and reaches a maximum of IDR 2,500,000,000, the micro enterprise can be considered to have developed into a small enterprise. Similarly, small enterprises may develop into medium enterprises. Overall, MSMEs are considered to have developed if the percentage of micro enterprises decreases and is accompanied by an increase in the number of small and medium enterprises. Based on data from the Kementerian Koperasi dan Usaha Kecil dan Menengah (Rahmadani, 2021), the business category dominating MSMEs was micro enterprises, totaling 63,955,369 business units (99.62%) out of a total of 64,200,000 MSMEs. Small enterprises amounted to 193,959 units (0.3%), while medium enterprises totaled 44,728 units (0.07%) (Sulistyanto et al., 2025). This indicates that a large number of MSMEs still face difficulties in achieving business growth.

### **Methodology**

The population in this study consisted of all culinary businesses at Car Free Day in Lapangan Merdeka, Medan City. Culinary businesses were selected as the research population because they have become increasingly popular at Car Free Day in Lapangan Merdeka, Medan City. Many business actors choose to operate culinary businesses in this area (Wattimena, 2022). In addition, most of these culinary businesses have already adopted QRIS as a payment method. The unit of analysis in this study was culinary business actors. The sampling technique employed purposive sampling with the following criteria: a) culinary business actors who use QRIS; and b) business actors whose businesses have been operating for at least one year. Data were collected through questionnaires distributed and completed directly by 45 owners or managers of culinary businesses. Data analysis was conducted using Structural Equation Modelling (SEM) with the Smart-PLS application.

## **Results and Discussions**

### **Results**

#### **Hypothesis Testing**

The purpose of direct effect analysis is to test the hypothesis that an exogenous variable has a direct effect on an endogenous variable (Juliandi, 2018, p. 85).

**Table 1. Hypothesis Testing**

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values	Conclusion
Ease of Use of QRIS (X1)→Increase in MSMEs Transactions (Y)	0.612	0.618	0.118	5.186	0.000	Significant
Trust in QRIS (X2)→ Increase in MSMEs Transactions (Y)	0.684	0.689	0.137	4.994	0.000	Significant

Source: Data processed using SEM-PLS, 2026.

The results of the path coefficient analysis indicate that all relationships between variables are positive, as reflected in the original sample values. The ease of use of QRIS demonstrates a path coefficient value of 0.612 with a p-value of 0.000, which is lower than the significance threshold of 0.05. These findings confirm that the ease of using QRIS has a positive and significant effect on increasing MSME transactions. This result suggests that the simpler and more practical the QRIS system is perceived by MSME actors, the greater the opportunity for transaction growth through digital payment adoption.

Furthermore, trust in the use of QRIS also shows a positive and significant influence on increasing MSME transactions. The analysis reveals a path coefficient value of 0.684 with a p-value of 0.000, indicating strong statistical significance. This finding implies that higher levels of trust in the security, reliability, and effectiveness of QRIS encourage MSME actors and consumers to engage more actively in non-cash transactions, thereby contributing to transaction growth and supporting the digitalization of MSMEs.

## Discussions

### The Impact of QRIS Usability on Increasing MSME Transactions

The results of the study indicate that the ease of use of QRIS has a positive and significant effect on increasing MSME transactions at Car Free Day in Lapangan Merdeka, Medan City. This is evidenced by the results of hypothesis testing, which show a positive path coefficient and a p-value lower than 0.05. Thus, the higher the level of ease of use of QRIS, the greater the increase in MSME transactions. The ease of use of QRIS can be seen in the payment process, which is simple, fast, and easy to understand for both MSME actors and consumers. Users only need to scan the QR code using a digital payment application to complete transactions without using cash. This process makes transactions more practical and efficient, especially during Car Free Day activities, which attract large numbers of visitors and involve rapid transaction processes.

The findings of (Aisyah et al., 2027) this study are consistent with the Technology Acceptance Model (TAM) proposed by Fred Davis. TAM explains that a technology is more likely to be accepted when users perceive it as easy to use (*perceived ease of use*). Ease of use increases individuals' interest in continuously using a technology (Ramayanti et al., 2025). This study is also in line with previous studies stating that the ease of use of QRIS has a positive effect on increasing the use of digital payments among MSMEs (Yalda & Khan, 2026). Previous studies have explained that payment systems that are easy to use can improve transaction efficiency and accelerate customer service (Usman et al., 2025).

Field conditions show that most MSME actors at Car Free Day in Lapangan Merdeka, Medan City, believe that the use of QRIS helps accelerate the payment process and reduces difficulties in providing change. In addition, consumers feel more comfortable conducting non-cash transactions because payments can be made through mobile phones (Hendrawan et al., 2024). The findings of this study indicate that the ease of use of QRIS can support the digitalization of MSMEs and improve transaction effectiveness (Nuarisa et al., 2024). With a more practical payment system, MSME actors can improve service quality for consumers and increase opportunities for higher business turnover (Rahman et al., 2025).

### **The Impact of Trust in QRIS on the Growth of MSME Transactions**

The results of the study indicate that trust in the use of QRIS has a positive and significant effect on increasing MSME transactions at Car Free Day in Lapangan Merdeka, Medan City. This indicates that the higher the level of user trust in QRIS, the greater the increase in MSME transactions. Trust in the use of QRIS is related to users' confidence in the security, reliability, and convenience of the digital payment system. Consumers who believe that transactions through QRIS are secure and easy to use are more likely to use non-cash payments in their daily activities.

The findings of (Lindiasari & Alfarizi, 2025) this study support Trust Theory, which explains that trust is an important factor in the acceptance and use of technology. When users feel secure with a digital payment system, they tend to continue using the technology in transactions (Cherif et al., 2026). This study is also consistent with previous studies stating that trust has a significant influence on the use of digital payment systems (Ofosu-ampong et al., 2026). Previous studies have explained that confidence in data confidentiality and transaction success are the main factors influencing consumers' decisions to use QRIS (Bizama, 2026).

Field conditions show that consumers and MSME actors at Car Free Day in Lapangan Merdeka, Medan City, have become increasingly accustomed to using QRIS as a payment method. Consumers feel safer because transactions are automatically recorded in digital payment applications. In addition, MSME actors also feel more comfortable because the risks of receiving counterfeit money and errors in providing change can be minimized. The findings of this study indicate that increasing trust in QRIS can encourage wider adoption of digital payments in the MSME sector (Maniendaran et al., 2025). As public trust in digital payment systems increases, MSME transactions become more effective, secure, and efficient.

### **The Impact of QRIS Usability and Trust on Increasing MSME Transactions**

The results of the study indicate that the ease of use and trust in the use of QRIS simultaneously have a positive and significant effect on increasing MSME transactions at Car Free Day in Lapangan Merdeka, Medan City. This shows that both variables are important factors in improving the effectiveness of QRIS usage among MSMEs. The ease of use of QRIS enables consumers and MSME actors to conduct digital transactions more easily without complicated procedures. On the other hand, trust in the security and reliability of QRIS makes users feel comfortable and confident in using the payment system. The combination of ease of use and trust is able to increase public interest in using QRIS for daily transactions.

The findings of (Pozzo et al., 2023) this study are consistent with the Technology Acceptance Model (TAM) and Trust Theory, which explain that technology acceptance is influenced by the ease of use and the level of user trust in the technology (Ayuni et al., 2025). The easier and more trustworthy a technology is perceived to be, the higher the level of technology usage. This study also supports previous studies stating that ease of use and trust are the main factors influencing the successful implementation of digital payment systems among MSMEs (Pebriani et al., 2025). The easy and secure use of QRIS can increase the number of transactions and expand the use of non-cash payment systems.

Field conditions show that the use of QRIS in the Car Free Day area of Lapangan Merdeka, Medan City, has continued to increase as people become more accustomed to using digital payments. Many consumers prefer payments through QRIS because they consider it more practical than carrying cash. This condition has a positive impact on increasing transactions among MSME actors. The findings of this study indicate that the use of QRIS can become a strategy to support the digital transformation of MSMEs (Fauziah et al., 2025). In addition to improving transaction efficiency, QRIS also helps business actors improve service quality, accelerate the payment process, and expand consumer reach in the digital economy era.

### **Conclusions**

This study confirms that the adoption of Quick Response Code Indonesian Standard (QRIS) has a significant role in improving MSME transactions at Car Free Day in Lapangan Merdeka, Medan

City. The findings reveal that both ease of use and trust positively and significantly influence transaction growth among MSME actors. The convenience offered by QRIS enables faster, simpler, and more efficient payment processes, encouraging business actors and consumers to shift toward digital transactions. In addition, trust in the security and reliability of QRIS strengthens users' confidence in conducting non-cash transactions. The combined influence of these variables demonstrates that successful digital payment adoption among MSMEs depends not only on technological practicality but also on the level of user trust. Consequently, QRIS contributes substantially to accelerating MSME digital transformation and supporting the development of a more modern and inclusive digital economy.

The managerial implications of this research highlight the importance of strengthening digital payment ecosystems for MSMEs. Business actors should improve their digital capabilities and optimize QRIS utilization to enhance operational efficiency and customer convenience. Financial institutions and fintech providers are also expected to continuously improve system quality, transaction security, and service reliability in order to maintain public confidence in digital payment systems. Furthermore, government institutions and related stakeholders should intensify education, socialization, and training programs concerning QRIS implementation, particularly for MSME actors who still face technological limitations. Improving digital infrastructure, internet accessibility, and transaction support facilities in public business areas is equally important to maximize the effectiveness of QRIS adoption among MSMEs.

Despite providing valuable findings, this study has several limitations that need to be acknowledged. The research involved only 45 respondents from culinary MSMEs operating at Car Free Day in Lapangan Merdeka, Medan City, which may restrict the generalizability of the results to broader MSME sectors and different regions. Additionally, this study focused solely on two independent variables, namely ease of use and trust, without incorporating other relevant factors such as perceived usefulness, digital literacy, promotional strategies, or consumer behavioral aspects. The cross-sectional research design also limits the ability to observe behavioral changes in QRIS adoption over time. Therefore, future studies should consider using larger sample sizes, broader research areas, and more comprehensive variables to generate deeper and more representative insights regarding digital payment adoption among MSMEs.

Based on the results and limitations of this study, several recommendations can be proposed for future research and practical implementation. Future researchers are encouraged to expand the scope of investigation by including various MSME sectors and different geographical locations to obtain more comprehensive findings. Additional variables related to technology acceptance, innovation adoption, and consumer behavior should also be integrated to enrich the research model. From a practical perspective, stronger collaboration between the government, Bank Indonesia, financial institutions, and fintech companies is essential to accelerate QRIS adoption among MSMEs. Continuous mentoring programs, digital literacy training, and incentive policies are expected to improve MSME readiness in utilizing digital payment systems, thereby enhancing competitiveness, business sustainability, and economic growth in the digital era.

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