

## QRIS Adoption and MSME Performance: A Digital Transformation Perspective

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### Abstract

The expansion of digital payment technology has played a crucial role in accelerating the digital transformation of Micro, Small, and Medium Enterprises (MSMEs). In Indonesia, a prominent innovation is the Quick Response Code Indonesian Standard (QRIS), which enables integrated cashless transactions across different payment platforms. This study investigates the key factors influencing the adoption of QRIS and examines its implications for MSME performance within the digital transformation framework. A quantitative research design was applied by collecting survey data from MSME owners who had implemented digital payment systems in their business operations. The analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) to assess the relationships among variables. The findings reveal that perceived usefulness, trust, social influence, and facilitating conditions are significant drivers of QRIS adoption. Moreover, the use of QRIS has a positive and significant effect on MSME performance, particularly in enhancing transaction effectiveness, improving financial management, and increasing operational productivity. These results emphasize the strategic importance of digital payment systems in strengthening MSME competitiveness and supporting broader digital transformation efforts. This study contributes to existing literature by connecting the determinants of technology adoption to business performance outcomes in the context of financial service digitalization. From a practical standpoint, the findings offer valuable insights for regulators and fintech providers to improve digital payment ecosystems and encourage greater QRIS adoption among MSMEs.

**Keywords:** QRIS adoption, digital transformation, MSME performance, fintech adoption, digital payment

*JEL Classification:* O33, M15, L25, G23 and M21

Received: March 09, 2026 / Revised: March 11, 2026 / June 10, 2026 / Available Online: June 30, 2026 / Publish: June 30, 2026

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### INTRODUCTION

The rapid advancement of information and communication technology has significantly transformed financial systems and business transactions worldwide. One of the most notable developments is the emergence of digital payment systems, which allow financial transactions to be conducted more quickly, efficiently, and securely. In Indonesia, the transformation of payment systems has accelerated with the introduction of the Quick Response Code Indonesian Standard (QRIS), a standardized QR code payment system initiated by Bank Indonesia to support a cashless economy and integrate various digital payment platforms into a single national standard (Syanova & Fajar, 2024). QRIS allows consumers and merchants to conduct transactions using a single QR code

regardless of the payment service provider, thereby simplifying digital payment adoption across multiple sectors of the economy (Chotisarn & Phuthong, 2025).

The adoption of digital payments has become increasingly important, particularly for Micro, Small, and Medium Enterprises (MSMEs), which represent a major pillar of the Indonesian economy. MSMEs contribute significantly to national economic growth, employment, and poverty reduction, accounting for a substantial portion of Indonesia's gross domestic product and economic activities (Putra et al., 2025). As digital technologies continue to expand, MSMEs are encouraged to adopt digital financial services to enhance operational efficiency, improve transaction management, and expand market reach. In this context, QRIS has emerged as an important technological innovation that facilitates cashless transactions and supports the digital transformation of MSMEs (Syanova & Fajar, 2024).

Digital payment systems such as QRIS provide several advantages for businesses, including increased transaction efficiency, increased financial record management, and reduced operational costs. By enabling merchants to accept payments from various digital wallet applications through a single QR code, QRIS simplifies financial transactions and reduces dependence on cash-based payments (Syanova & Fajar, 2024). Additionally, adopting digital payments can enhance financial transparency and security while minimizing risks associated with counterfeit currency and cash handling. These benefits highlight the strategic value of QRIS adoption in improving business performance and fostering digital transformation within MSMEs (Badrawani, 2025).

Despite these potential benefits, QRIS adoption among MSMEs remains uneven (Machado et al., 2021). Several studies have identified various factors influencing the intention to use and actual adoption of QRIS (Rahmayanti, et al., 2025). For example, perceived usefulness, perceived security, knowledge, and trust have been found to significantly influence users' intention to adopt QRIS-based payment systems (Usman et al., 2024). Similarly, research based on the Technology Acceptance Model (TAM) indicates that perceived ease of use and perceived usefulness influence user attitudes toward QRIS, which subsequently affect their intention to adopt digital payment technologies (Tenggino & Mauritius, 2022). These findings suggest that technological acceptance is important in determining whether individuals and organizations adopt digital financial innovations (Musyaffi et al., 2021).

Other studies emphasize the importance of social and behavioral factors in shaping QRIS adoption (Putra et al., 2025). Research based on the Unified Theory of Acceptance and Use of Technology (UTAUT) shows that performance expectancy, effort expectancy, social influence, and facilitating conditions significantly affect QRIS usage behavior among MSMEs (Syanova & Fajar, 2024). In addition, trust has been identified as a key determinant that encourages merchants to adopt digital payment technologies, particularly in environments where users are concerned about security and privacy risks (Musyaffi et al., 2021). These factors indicate that technological readiness and social influence are essential drivers of digital payment adoption within small business environments (Cahyasari et al., 2025).

Beyond commercial applications, QRIS adoption has also expanded into social and institutional contexts, including religious organizations and cultural institutions (Putritamara et al., 2023). Studies examining QRIS implementation in temples and mosques demonstrate that digital payment systems can improve transparency, accountability, and community participation in donation activities (Rahmayanti et al., 2025). Similarly, research on digital integration in mosque infrastructure highlights how QRIS can enhance visitor experience and encourage philanthropic participation while supporting the sustainability of cultural heritage institutions (Putra et al., 2025). These findings illustrate the growing role of QRIS as a broader digital innovation that supports financial inclusion and operational efficiency across different organizational settings (Khan & Abdul, 2023).

The COVID-19 pandemic has accelerated the adoption of digital payments as societies increasingly rely on contactless transaction methods to minimize physical interactions. During the pandemic, the use of digital payment technologies, including QRIS, increased significantly as businesses and consumers looked for safer and more convenient transaction methods (Musyaffi et al.,

2021). Government initiatives that promote cashless transactions have further encouraged the widespread adoption of QRIS as part of the national strategy to strengthen the digital economy (Letters, 2025). Although QRIS adoption is increasing, several MSMEs continue to face challenges in fully leveraging its potential. These challenges include limited digital literacy, inadequate technological infrastructure, and resistance to adopting new technologies (Marolt et al., 2025). Moreover, many previous studies focused on identifying factors influencing QRIS adoption rather than examining its broader impact on business outcomes, such as operational efficiency, competitiveness, and long-term sustainability (Cahyasari et al., 2025). Consequently, there is limited empirical research on how QRIS adoption influences MSME performance within the context of digital transformation.

### **Research Gap and Contribution**

Despite growing research on QRIS and digital payment adoption, most previous studies have focused on behavioral intention and adoption factors, using frameworks such as TAM and UTAUT. However, limited studies have specifically explored how QRIS adoption translates into MSME performance from a digital transformation perspective. Furthermore, the mechanism through which technological and social factors influence business outcomes via QRIS adoption remains underexplored. Therefore, this study addresses these gaps by integrating technology adoption theory with a digital transformation perspective and empirically examining the mediating role of QRIS adoption in enhancing MSME performance. This study contributes by extending TAM into digital transformation, connecting adoption to performance, and providing evidence from MSMEs in an emerging economy.

### **LITERATURE REVIEW AND HYPOTHESES**

This study integrates TAM and UTAUT within a digital transformation framework, viewing QRIS adoption as a behavioral intention and a factor that enhances organizational performance.

#### **Technology Acceptance Model (TAM)**

The Technology Acceptance Model (TAM) was developed by Fred D. Davis (1989) to explain the factors that influence individuals' acceptance and use of technology. TAM proposes that technology adoption behavior is primarily determined by two key factors: perceived usefulness and perceived ease of use. Perceived usefulness refers to how much an individual believes that using a particular technology will improve their job performance, while perceived ease of use refers to how effortless the technology appears to be. In the context of this study, QRIS, as a digital payment system, can be accepted by MSME owners when they believe it improves transaction efficiency, accelerates payment processes, and supports better financial management. Therefore, perceived usefulness is a primary factor influencing both QRIS adoption and MSME performance.

#### **Unified Theory of Acceptance and Use of Technology (UTAUT)**

The Unified Theory of Acceptance and Use of Technology (UTAUT) was introduced by Viswanath Venkatesh et al. (2003) and builds upon earlier models, including TAM. UTAUT explains that individuals' intentions and use of technology are affected by four key factors: performance expectancy, effort expectancy, social influence, and facilitating conditions. This study specifically examines two UTAUT constructs, namely social influence and facilitating conditions. Social influence refers to the extent to which individuals perceive that important others encourage them to use a particular technology. Facilitating conditions refer to the availability of resources, infrastructure, and technical support that enable effective use of technology. These factors are highly relevant to explaining QRIS adoption among MSMEs, as the implementation of digital payment systems is influenced by perceived technological benefits, social support, and organizational readiness. Consequently, social influence and facilitating conditions significantly encourage MSMEs to adopt QRIS as part of their digital transformation process.

## **Digital Transformation in MSMEs**

Digital transformation has become an essential strategy for organizations to improve operational efficiency, foster innovation capability, and business competitiveness (Usman et al., 2024). Digital technology integration allows businesses to optimize transaction processes, improve customer experiences, and strengthen financial management systems (Sagala & Óri, 2024). Digital transformation is especially crucial for Micro, Small, and Medium Enterprises (MSMEs) because it enables these small businesses to remain competitive in a growing digital economy (Komala & Firdaus, 2023). In Indonesia, the growth of financial technology (FinTech), especially digital payment platforms, has accelerated digital transformation (Anatan, 2023). One of the most prominent innovations is the Quick Response Code Indonesian Standard (QRIS), which integrates multiple digital payment platforms into a single standardized QR code system (Moustier et al., 2023). This innovation enables MSMEs to accept payments from various electronic wallets and mobile banking applications via a single unified platform (Muchtar et al., 2024). Previous studies indicate that the adoption of digital financial technologies can significantly improve business efficiency and sustainability. Digital payment systems simplify transaction processes, reduce operational costs, and provide better financial records for businesses (Cahyasari et al., 2025). As a result, digital transformation through financial technology adoption can strengthen MSME performance and contribute to long-term business sustainability (Muchtar et al., 2024).

### **QRIS Adoption**

QRIS adoption refers to the extent to which individuals or organizations accept and use the QRIS payment system in their transactions. As a standardized QR code payment system regulated by Bank Indonesia, QRIS is designed to simplify digital payment transactions by allowing interoperability among different payment service providers (Cassaro et al., 2024). QRIS adoption is often analyzed using well-known technology acceptance frameworks, particularly the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT). These theoretical models explain how factors such as perceived usefulness, perceived ease of use, and social influence affect people's intentions to adopt new technologies. Research shows that perceived benefits, awareness, and trust significantly influence individuals' willingness to use QRIS (Usman et al., 2024). Similarly, studies based on the UTAUT framework show that performance expectancy, effort expectancy, facilitating conditions, and social influence significantly affect the adoption of QRIS among MSME actors (Syanova & Fajar, 2024). These findings indicate that technological acceptance factors play an important role in determining whether MSMEs adopt digital payment systems.

### **Trust and Security in Digital Payment Adoption**

Trust is widely recognized as a critical factor in encouraging users to adopt digital payments. Digital financial transactions involve sharing sensitive financial information, making security and reliability key concerns for users (Mujianto et al., 2023). When users perceive digital payment systems as secure and trustworthy, they are more likely to use them. Previous studies indicate that perceived security and trust significantly influence users' intention to use QR code-based payment systems (Musyaffi et al., 2021). Trust can be built through reliable transaction systems, transparent regulations, and strong data protection mechanisms. For MSMEs, trust in digital payment platforms is important because business owners need assurance that their financial transactions are secure and efficient. Moreover, trust also influences behavioral intention and actual usage of digital payment technologies. Research on QRIS adoption among MSME customers shows that perceived benefits and trust significantly increase users' willingness to adopt QRIS (Usman et al., 2024). Therefore, trust plays a fundamental role in promoting the adoption of digital financial innovation.

## **QRIS Adoption and MSME Performance**

Digital payment systems, including QRIS, have the potential to enhance MSME performance. The implementation of such technologies facilitates faster, more efficient transactions, reduces operational expenses, and improves the accuracy and organization of financial records. These benefits can enhance overall business productivity and financial performance. Research indicates that QRIS adoption can increase sales performance and improve financial management for MSMEs by enabling faster and more secure transactions (Syanova & Fajar, 2024). Digital payment systems help businesses expand their customer base because consumers increasingly prefer cashless payment methods. Furthermore, QRIS adoption can contribute to business sustainability by improving operational efficiency and encouraging MSMEs to integrate into the digital financial ecosystem (Cahyasari et al., 2025). As digital financial infrastructure continues to develop, MSMEs that adopt digital payment systems are more likely to achieve competitive advantages and long-term growth (Gaffar et al., 2022).

## **Hypotheses Development**

### **Perceived Usefulness and QRIS Adoption**

Perceived usefulness reflects how individuals believe that using a particular technology can improve their performance and productivity. In the Technology Acceptance Model (TAM), perceived usefulness is a key factor influencing the decision to adopt new technology. For digital payment systems, MSME owners are more likely to adopt QRIS when they perceive that the system can simplify transaction processes, improve operational efficiency, and enhance financial management. QRIS enables businesses to conduct faster, more practical cashless transactions while simplifying the management of multiple payment platforms. These advantages encourage MSMEs to adopt QRIS into their daily business activities because they perceive technology as beneficial for improving business effectiveness and customer satisfaction.

Previous studies have consistently shown that perceived usefulness positively influences users' intention to adopt QRIS and other digital payment technologies. Research by Tenggino and Mauritsius (2022) found that individuals tend to accept QRIS when they believe it offers practical benefits and enhances transaction efficiency. Similarly, studies on digital transformation among MSMEs emphasize that technologies perceived as useful are more likely to be implemented in business operations because they contribute to productivity and competitiveness. Therefore, MSME owners who recognize the benefits of QRIS in supporting faster transactions, enhancing financial transparency, and improving operational effectiveness are expected to show a stronger intention to adopt the system. Based on these arguments, the following hypothesis is proposed

H<sub>1</sub>: Perceived usefulness positively affects QRIS adoption.

### **Trust and QRIS Adoption**

Trust is considered one of the most important factors influencing the adoption of digital payment systems. In the context of QRIS, trust refers to the degree to which MSME owners believe that the system's security, reliability, and ability to protect financial transaction data. Since digital payment technologies involve sensitive financial information and online transaction processes, users often evaluate their security and reliability before adopting them. MSME owners are more likely to adopt QRIS when they are confident the system can minimize transaction risks, prevent fraud, and provide stable payment services. A trustworthy digital payment system can also reduce uncertainty and increase users' confidence in conducting cashless transactions for their business activities.

Previous studies have shown that trust has a significant positive influence on the intention to adopt QRIS and other digital payment systems. Research by Musyaffi et al. (2021) and Usman et al. (2024) found that users are more willing to adopt QR-based payment systems when they perceive the technology as secure and trustworthy. Trust is further reinforced by transparent regulations, secure transaction mechanisms, and reliable technological infrastructure. For MSMEs, confidence in the security and reliability of QRIS is essential because business owners must be assured that their

financial transactions are safe and efficient. Therefore, higher trust in QRIS is likely to lead to greater adoption of this digital payment system. Based on these arguments, the following hypothesis is proposed:

H<sub>2</sub>: Trust positively affects QRIS adoption.

### **Social Influence and QRIS Adoption**

Social influence refers to the extent to which individuals perceive that important people around them encourage or expect them to use a particular technology. In the context of QRIS adoption, social influence can come from customers, business partners, colleagues, communities, or even government campaigns promoting cashless transactions. MSME owners are more likely to adopt QRIS when they observe that digital payment systems are widely accepted and recommended within their social and business environment. The growing consumer preference for cashless payments also creates social pressure on businesses to offer QRIS as a payment option to remain competitive and meet customer expectations. As society increasingly embraces digital transactions, social influence significantly shapes positive perceptions of QRIS adoption.

Previous studies have shown that social influence significantly affects the adoption of QRIS and other financial technologies. According to the Unified Theory of Acceptance and Use of Technology (UTAUT), recommendations and encouragement from surrounding social groups can strengthen individuals' intentions to adopt digital payment systems. Muchtar et al. (2024) also found that customers and business networks contribute to increasing QRIS adoption among MSMEs. In addition, government initiatives and the growing trend of digital transactions further reinforce the social acceptance of QRIS in business operations. Therefore, MSME owners who receive stronger encouragement from their social environment are expected to be more likely to adopt QRIS in their business activities. Based on these arguments, the following hypothesis is proposed:

H<sub>3</sub>: Social influence positively affects QRIS adoption.

### **Facilitating Conditions and QRIS Adoption**

Facilitating conditions refer to individuals' beliefs that adequate resources, infrastructure, and technical support are available to support technology use. In the context of QRIS adoption, these conditions include the availability of smartphones, stable internet connections, compatible payment applications, and technical assistance that support the implementation of digital payment systems. MSME owners are more likely to adopt QRIS when they have sufficient technological infrastructure and perceive QRIS as easy to integrate into their business operations. The existence of reliable supporting facilities can reduce operational difficulties and increase users' confidence in utilizing QRIS for daily transactions. Therefore, facilitating conditions significantly encourage the successful adoption of digital payment technologies among MSMEs.

Previous studies based on the Unified Theory of Acceptance and Use of Technology (UTAUT) have consistently shown that facilitating conditions significantly influence the adoption and usage behavior of digital technologies. Research by Cahyasari et al. (2025) and Syanova and Fajar (2024) found that MSMEs with greater access to technological infrastructure and support systems are more likely to implement QRIS in their operations. Technical guidance and digital literacy support can also help MSME owners overcome barriers to technology adoption. With adequate digital resources, MSMEs can integrate QRIS into their transaction systems and improve operational efficiency. Therefore, MSMEs with stronger facilitating conditions are expected to increase their adoption of QRIS. Based on these arguments, the following hypothesis is proposed:

H<sub>4</sub>: Facilitating conditions positively affect QRIS adoption.

### **Perceived Usefulness and MSME Performance**

Perceived usefulness refers to how MSME owners view QRIS as a tool to improve business efficiency, productivity, and operational effectiveness. According to the Technology Acceptance Model (TAM), perceived usefulness is considered a major factor of technology acceptance and use.

For MSMEs, QRIS offers several practical advantages, including faster transaction processing, simplified financial management, and greater convenience for customers. These benefits can help businesses reduce operational inefficiencies and improve service quality, thereby supporting better business performance. MSME owners who perceive QRIS as beneficial are more likely to optimize the use of digital payment systems to support their business activities and achieve organizational goals.

Previous studies have shown that technologies perceived as useful can positively influence organizational outcomes and business performance. Research on digital transformation indicates that adopting digital payment systems improves operational efficiency, enhances transaction accuracy, and supports MSME sustainability. In addition, MSMEs that effectively utilize QRIS can attract more customers who prefer cashless transactions, thereby increasing sales opportunities and competitiveness in the digital economy. The perception that QRIS provides valuable benefits for transaction management and business productivity can, thus, strengthen MSME performance. Based on these arguments, the following hypothesis is proposed:

H<sub>5</sub>: Perceived usefulness positively affects MSME performance.

### **Trust and MSME Performance**

Trust refers to the level of confidence MSME owners have in QRIS's reliability, security, and effectiveness as a digital payment system. In digital financial transactions, trust plays an essential role because business owners need assurance that their transactions are secure, accurate, and protected from unauthorized access. When MSMEs trust the QRIS system, they are more likely to utilize digital payment services consistently in their business operations, which can improve transaction efficiency, customer satisfaction, and financial management. Previous studies have shown that trust in financial technology contributes positively to organizational performance by reducing transaction uncertainty and encouraging the effective use of digital systems. Additionally, customers tend to prefer businesses that offer secure and reliable payment methods, which can increase sales and competitiveness. Consequently, higher trust in QRIS is believed to enhance MSME performance. Based on this, the following hypothesis is proposed:

H<sub>6</sub>: Trust positively affects MSME performance.

### **Social Influence and MSME Performance**

Social influence refers to the encouragement MSME owners receive from key individuals or groups, such as customers, business partners, communities, and peers, to adopt digital payment systems like QRIS. In the business environment, social influence can shape organizational behavior and motivate MSMEs to adopt innovative technologies in order to meet market expectations and remain competitive. The growing consumer preference for cashless transactions encourages businesses to offer digital payment options to enhance customer convenience and satisfaction. Previous studies suggest that social influence contributes to technology adoption and organizational performance by encouraging businesses to align with current market trends and digital transformation practices. MSMEs that receive stronger encouragement from customers and business networks are more likely to improve service quality, expand their customer base, and enhance operational effectiveness by using QRIS. Therefore, stronger social influence is expected to positively contribute to MSME performance. Based on these arguments, the following hypothesis is proposed:

H<sub>7</sub>: Social influence positively affects MSME performance.

### **Facilitating Conditions and MSME Performance**

Facilitating conditions refer to the availability of adequate technological infrastructure, resources, and technical support that enable MSMEs to use QRIS and other digital payment systems effectively. These conditions include stable internet access, compatible digital devices, user-friendly applications, and sufficient technical assistance that support business operations. In the context of digital transformation, MSMEs with better facilitating conditions can integrate digital payment technologies into their daily operations, thereby improving transaction efficiency and operational

productivity. Previous studies have shown that adequate technological support positively influences organizational performance by enabling businesses to optimize the use of digital systems and reduce operational barriers. In addition, MSMEs with reliable digital infrastructure are more likely to deliver efficient services, improve financial management, and respond more effectively to changing customer preferences in the digital economy. Therefore, stronger facilitating conditions are expected to positively contribute to MSME performance. Based on these arguments, the following hypothesis is proposed:

H<sub>8</sub>: Facilitating conditions positively affect MSME performance

### **QRIS Adoption and MSME Performance**

QRIS adoption refers to MSMEs' use of the Quick Response Code Indonesian Standard (QRIS) to conduct business transactions. QRIS enables businesses to process transactions more quickly, efficiently, and securely while reducing dependence on cash-based payments. In addition, QRIS helps MSMEs improve financial record management, enhance transaction transparency, and provide greater convenience for customers who prefer cashless payment methods. These advantages can increase operational efficiency, customer satisfaction, and business competitiveness in the digital economy. Previous studies have shown that the adoption of digital payment technologies positively influences MSME performance by supporting business productivity and sustainability. MSMEs that actively use QRIS are more likely to improve sales performance, operational efficiency, and financial management as part of their broader digital transformation. Therefore, QRIS adoption is expected to positively contribute to MSME performance. Based on these arguments, the following hypothesis is proposed:

H<sub>9</sub>: QRIS adoption positively affects MSME performance.

### **QRIS Adoption as a Mediator between Perceived Usefulness and MSME Performance**

Perceived usefulness reflects the extent to which MSME owners believe that using QRIS can improve transaction efficiency, business productivity, and overall operational performance. According to the Technology Acceptance Model (TAM), technologies perceived as useful are more likely to be adopted because users expect tangible benefits from their utilization. In the context of MSMEs, QRIS offers practical advantages such as faster payment processing, simplified financial record-keeping, and greater customer convenience. These perceived benefits encourage MSME owners to adopt QRIS in their daily business operations. However, the impact of perceived usefulness on business performance may not be direct, but rather mediated by the actual adoption and use of QRIS as a digital payment system.

The adoption of QRIS can serve as a mediating mechanism, translating the perceived benefits of digital payment technology into improved MSME performance. MSMEs that adopt QRIS are more likely to experience enhanced operational efficiency, improved transaction management, and broader customer reach, which ultimately contribute to better business outcomes. Previous studies have shown that adopting digital payments strengthens business competitiveness and supports digital transformation among MSMEs. Therefore, when MSME owners perceive QRIS as useful, they are more likely to adopt the system, thereby improving business performance. Based on these arguments, the following hypothesis is proposed:

H<sub>10</sub>: QRIS adoption mediates the relationship between technological factors and MSME performance.

### **QRIS Adoption as a Mediator between Trust and MSME Performance**

Trust plays an important role in encouraging MSMEs to adopt digital payment systems such as QRIS because business owners need confidence that the system is secure, reliable, and capable of protecting financial transaction data. When MSME owners trust QRIS, they are more likely to use the system consistently in their business operations. The adoption of QRIS can improve transaction efficiency, simplify financial management, and enhance customer satisfaction by enabling faster, more convenient payment processes. These improvements may ultimately contribute to better MSME

performance, including increased operational effectiveness, sales growth, and business competitiveness. Previous studies have shown that trust positively influences digital payment adoption, while the use of digital financial technologies contributes to organizational performance and business sustainability. Therefore, QRIS adoption can function as a mediating mechanism through which trust influences MSME performance. Based on these arguments, the following hypothesis is proposed:

H<sub>11</sub>: QRIS adoption mediates the relationship between trust and MSME performance.

### **QRIS Adoption as a Mediator between Social Influence and MSME Performance**

Social influence reflects the extent to which MSME owners perceive encouragement from customers, business partners, peers, and the surrounding community to use digital payment systems such as QRIS. Strong social influence can motivate MSMEs to adopt QRIS to meet customer expectations, follow digital transaction trends, and remain competitive in the market. The adoption of QRIS enables businesses to improve transaction efficiency, offer more convenient payment options, and strengthen financial management practices, ultimately enhancing MSME performance. Previous studies have indicated that social influence positively affects technology adoption behavior, while the implementation of digital payment systems contributes to business productivity, operational effectiveness, and sustainability. Therefore, QRIS adoption can serve as a mediating mechanism through which social influence improves MSME performance. Based on these arguments, the following hypothesis is proposed:

H<sub>12</sub>: QRIS adoption mediates the relationship between Social Influence and MSME performance.

### **QRIS Adoption as a Mediator between Facilitating Conditions and MSME Performance**

Facilitating conditions refer to the availability of technological infrastructure, resources, and technical support that enable MSMEs to use QRIS effectively in their business operations. Adequate facilitating conditions, such as stable internet access, compatible digital devices, and reliable technical assistance, encourage MSME owners to adopt digital payment systems more easily and efficiently. By adopting QRIS, MSMEs can simplify transaction processes, strengthen financial record management, and offer more convenient payment services for customers. These improvements can support business productivity, operational efficiency, and overall organizational performance. Previous studies have demonstrated that facilitating conditions significantly influence technology adoption behavior, while the implementation of digital payment systems contributes to MSME growth and sustainability. Therefore, QRIS adoption can function as a mediating mechanism through which facilitating conditions influence MSME performance. Based on these arguments, the following hypothesis is proposed:

H<sub>13</sub>: QRIS Adoption mediates the relationship between Facilitating Conditions and MSME performance.

## **METHODS**

This research used a quantitative design to investigate the relationship between QRIS adoption and MSME performance within the context of digital transformation. A quantitative approach was selected because it enables examination of theoretical linkages among variables and assessment of causal relationships using statistical techniques. The study used a cross-sectional survey design, in which data were collected from respondents at a single point in time. The analysis focused on Micro, Small, and Medium Enterprises (MSMEs) that had used or were familiar with digital payment systems, particularly the Quick Response Code Indonesian Standard (QRIS), in their business activities.

The population of this study comprised MSME owners operating in urban areas of Indonesia who had access to digital payment services. MSMEs are selected as the unit of analysis because they represent a major sector in the Indonesian economy and are increasingly encouraged to adopt digital payment systems to improve their operational efficiency and competitiveness. This study used

purposive sampling, in which respondents were selected based on predetermined criteria aligned with the research objectives. The selected participants were MSME owners or managers with experience using or adequate familiarity with QRIS-based digital payment systems in their business activities. This sampling approach allowed researchers to collect information from respondents with relevant knowledge and experience of QRIS adoption.

Data were gathered using a structured questionnaire distributed to MSME owners. To reach a broader range of respondents, the survey was conducted through both online and offline methods. The online version was disseminated via digital platforms, including Google Forms and social media channels targeting MSME communities, while the offline version was delivered directly to selected business locations. The questionnaire was divided into two primary sections. The first section recorded respondents' demographic characteristics, such as business type, length of operation, and extent of digital payment usage. The second section contained measurement items for the study's key variables: perceived usefulness, trust, social influence, facilitating conditions, QRIS adoption, and MSME performance.

All variables in this study were measured using multi-item constructs adapted from previous empirical studies related to digital payment adoption and technology acceptance. The measurement indicators were assessed using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Perceived usefulness referred to the degree to which MSME owners believe that using QRIS improves transaction efficiency and business productivity. Trust referred to the level of confidence that MSME owners have in the reliability and security of QRIS payment systems. Social influence refers to the extent to which MSME owners perceive that those around them encourage the use of QRIS. Facilitating conditions described the availability of technological infrastructure and support required to use QRIS. QRIS adoption measures the level of actual usage of QRIS in business transactions. Meanwhile, MSME performance reflected improvements in sales, operational efficiency, and overall business outcomes.

The data obtained in this study were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). This method was chosen because it is well-suited for examining complex relationships between latent constructs and does not require strict requirements on data distribution, particularly normality. In addition, PLS-SEM has been widely applied in research related to technology adoption and behavioral analysis. The data processing was carried out using SmartPLS software. The analysis was conducted in two main stages. The first stage focused on evaluating the measurement model (outer model) to ensure that the indicators used are both reliable and valid. This involved assessing indicator reliability through factor loadings and internal consistency using Cronbach's alpha and composite reliability, as well as testing convergent validity using the average variance extracted (AVE) and discriminant validity using the Fornell-Larcker criterion.

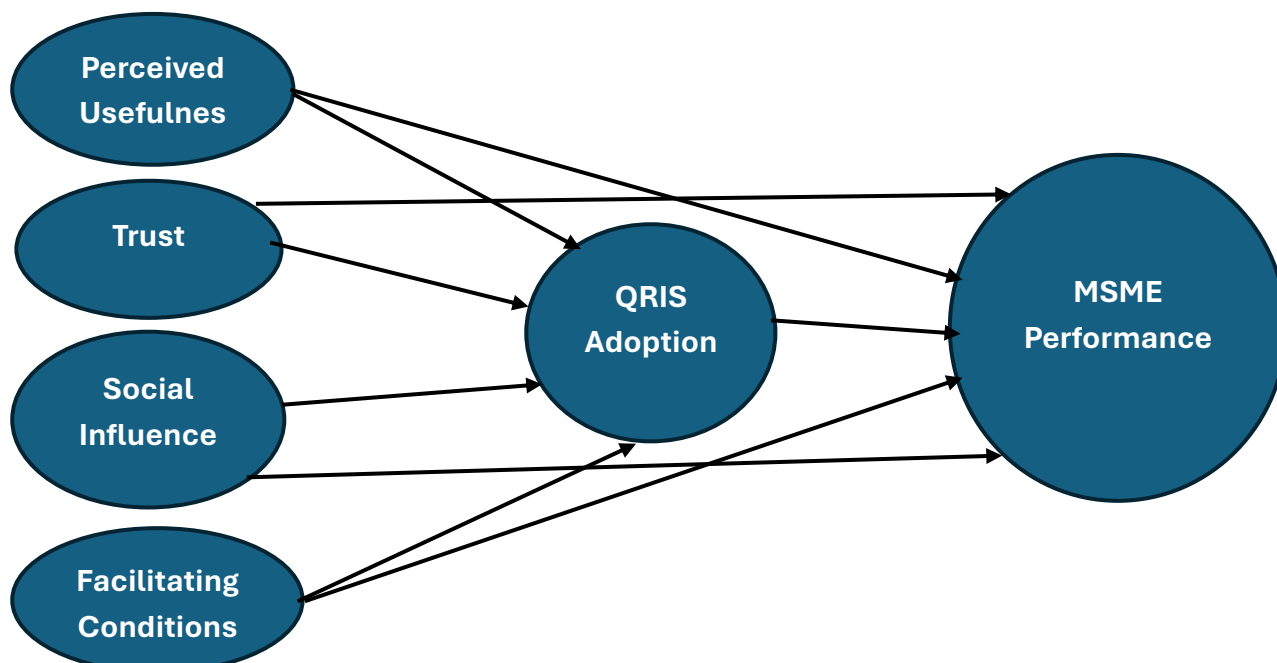
The second stage focused on assessing the structural model (inner model) to test the proposed hypotheses and understand the relationships between variables. This stage included examining the coefficient of determination ( $R^2$ ), path coefficients, and the model's predictive relevance. To assess the significance of the relationships, a bootstrapping procedure with many resamples was used. The results were interpreted using the t-statistics and p-values generated by this process.

**Table 1.** Variable Measurement

Variable	Code	Measurement Indicator	Source
Perceived Usefulness	PU1	Using QRIS improves the efficiency of business transactions.	Tengginno & Mauritsius (2022) Muchtar et al. (2024)
	PU2	QRIS helps accelerate payment processes in my business.	
	PU3	QRIS improves the overall effectiveness of my business operations.	
	PU4	QRIS provides benefits for managing financial transactions.	

Variable	Code	Measurement Indicator	Source
Trust	TR1	I believe QRIS is a reliable payment system.	Musyaffi et al. (2021) Usman et al. (2024)
	TR2	I feel secure when using QRIS for business transactions.	
	TR3	QRIS provides trustworthy payment transactions.	
	TR4	I trust the security system used in QRIS transactions.	
Social Influence	SI1	People around me encourage the use of QRIS in business transactions.	Mughtar et al. (2024) Syanova & Fajar (2024)
	SI2	Customers prefer businesses that accept QRIS payments.	
	SI3	Business partners recommend using QRIS payment systems.	
Facilitating Conditions	FC1	My business has the necessary infrastructure using QRIS.	Cahyasari et al. (2025) Syanova & Fajar (2024)
	FC2	Internet access supports the use of QRIS in my business.	
	FC3	Technical support is available when using QRIS.	
QRIS Adoption	QA1	I regularly use QRIS for business transactions.	Syanova & Fajar (2024)
	QA2	QRIS is my preferred payment method for business transactions.	
	QA3	I encourage customers to use QRIS for payments.	
MSME Performance	MP1	QRIS adoption increases my business sales.	Syanova & Fajar (2024) Cahyasari et al. (2025)
	MP2	QRIS improves the efficiency of my business operations.	
	MP3	QRIS simplifies financial record-keeping.	
	MP4	QRIS contributes to the growth of my business.	

Picture 1. Empiric Model



## RESULTS AND DISCUSSION

### Descriptive Statistics

A total of 210 questionnaires were distributed to MSME owners, of which 186 were considered valid and subsequently analyzed. The respondents represented a diverse range of business sectors, including food and beverage, retail, services, and small-scale manufacturing. Most participants had been running their businesses for over three years and were already familiar with digital payment systems, particularly QRIS, in their daily transactions. A summary of the descriptive statistics for the study variables is presented in Table 2.

**Table 2.** Descriptive Statistics

Variable	Mean	Std. Dev.
Perceived Usefulness	4.12	0.63
Trust	4.05	0.67
Social Influence	3.89	0.71
Facilitating Conditions	3.97	0.69
QRIS Adoption	4.08	0.65
MSME Performance	4.01	0.66

The results indicate that MSME owners generally perceive QRIS as useful for improving transaction efficiency and their business operations. The relatively high mean values across factors indicate that respondents generally held positive perceptions of digital payment adoption.

### Measurement Model Evaluation

The measurement model was assessed to ensure that the constructs met the required standards of reliability and validity. Indicator reliability was evaluated based on factor loadings, while internal consistency was examined using Cronbach's alpha and composite reliability values. Additionally, convergent validity was assessed using the Average Variance Extracted (AVE).

**Table 3.** Reliability and Convergent Validity

Variable	Cronbach Alpha	Composite Reliability	AVE
Perceived Usefulness	0.873	0.908	0.712
Trust	0.889	0.919	0.739
Social Influence	0.842	0.892	0.676
Facilitating Conditions	0.831	0.887	0.662
QRIS Adoption	0.864	0.903	0.701
MSME Performance	0.881	0.915	0.730

All constructs demonstrate acceptable reliability and validity. Cronbach's alpha and composite reliability values exceed the recommended threshold of 0.70, while AVE values are greater than 0.50, indicating adequate convergent validity.

### Structural Model Evaluation

The structural model was evaluated to analyze the relationships among the constructs and to test the proposed hypotheses. To assess the significance of the path coefficients, a bootstrapping procedure with 5,000 resamples was applied.

**Table 4.** Structural Model Results

Hypothesis	Relationship	Path Coefficient	t-value	p-value	Result
H <sub>1</sub>	Perceived Usefulness → QRIS Adoption	0.321	4.112	0.000	Supported
H <sub>2</sub>	Trust → QRIS Adoption	0.284	3.756	0.000	Supported
H <sub>3</sub>	Social Influence → QRIS Adoption	0.192	2.641	0.009	Supported
H <sub>4</sub>	Facilitating Conditions → QRIS Adoption	0.267	3.408	0.001	Supported
H <sub>5</sub>	QRIS Adoption → MSME Performance	0.241	3.215	0.001	Supported
H <sub>6</sub>	Perceived Usefulness → MSME Performance	0.216	2.987	0.003	Supported
H <sub>7</sub>	Trust → MSME Performance	0.174	2.421	0.016	Supported
H <sub>8</sub>	Social Influence → MSME Performance	0.201	2.756	0.006	Supported
H <sub>9</sub>	Facilitating Conditions → MSME Performance	0.468	6.125	0.000	Supported

**Table 5.** Indirect Effect

Hypothesis	Relationship	Indirect Effect	t-value	p-value	Mediation type	Result
H <sub>10</sub>	Perceived Usefulness → QRIS Adoption → MSME Performance	0.150	3.842	0.000	Partial Mediation	Supported
H <sub>11</sub>	Trust → QRIS Adoption → MSME Performance	0.133	3.417	0.001	Partial Mediation	Supported
H <sub>12</sub>	Social Influence → QRIS Adoption → MSME Performance	0.090	2.538	0.011	Partial Mediation	Supported
H <sub>13</sub>	Facilitating Conditions → QRIS Adoption → MSME Performance	0.125	3.106	0.002	Partial Mediation	Supported

Table 4 presents that all direct relationships proposed in the structural model are positive and statistically significant. Perceived usefulness, trust, social influence, and facilitating conditions significantly influence QRIS adoption among MSMEs, with perceived usefulness showing the strongest effect ( $\beta = 0.321$ ;  $p < 0.001$ ). This indicates that MSME owners are more likely to adopt QRIS when they perceive clear benefits, operational efficiency, and convenience from the digital payment system. Trust and facilitating conditions also have substantial effects, indicating that system security, technological infrastructure, and technical support are essential factors that encourage digital payment adoption. Furthermore, QRIS adoption significantly improves MSME performance ( $\beta = 0.241$ ;  $p = 0.001$ ), confirming that implementing digital payment systems enhances transaction efficiency, financial management, and business competitiveness. In addition, perceived usefulness, trust, social influence, and facilitating conditions directly influenced MSME performance, highlighting the important roles that technological and behavioral factors play in supporting business sustainability and operational effectiveness.

Table 5 further presents that QRIS adoption had a significant mediating role in the relationship between technological factors and MSME performance. The indirect effect results reveal that perceived usefulness has the strongest mediated effect on MSME performance through QRIS adoption ( $\beta = 0.150$ ;  $p < 0.001$ ), followed by trust ( $\beta = 0.133$ ;  $p = 0.001$ ), facilitating conditions ( $\beta = 0.125$ ;  $p = 0.002$ ), and social influence ( $\beta = 0.090$ ;  $p = 0.011$ ). All mediation relationships are

categorized as partial mediation because both the direct and indirect effects remain statistically significant. These findings provide important insight: QRIS adoption functions as both a technological tool and a strategic mechanism through which MSMEs can interpret technological readiness and social support into improved organizational performance. This highlights the importance of strengthening digital payment ecosystems, enhancing user trust, and improving technological infrastructure to maximize the benefits of digital transformation among MSMEs.

### **H<sub>1</sub>: Perceived Usefulness to QRIS Adoption**

The results of this study showed that perceived usefulness had a positive and significant effect on QRIS adoption among MSMEs ( $\beta = 0.321$ ;  $t = 4.112$ ;  $p < 0.001$ ). This finding indicates that MSME owners are more likely to adopt QRIS when they perceive that the system can improve transaction efficiency, simplify payment processes, and support better financial management. QRIS provides practical benefits such as faster transactions, reduced reliance on cash, and greater convenience for both businesses and customers. Therefore, stronger perceived benefits are associated with stronger MSMEs' intention to adopt the digital payment system.

This result supports the Technology Acceptance Model (TAM), which states that perceived usefulness is a major factor influencing technology adoption behavior. The finding is also consistent with previous studies by Tenggingo and Mauritsius (2022) and Usman et al. (2024), which found that perceived usefulness significantly influences the intention to adopt QRIS and digital payment technologies. In the context of MSMEs, QRIS adoption reflects technological acceptance and a strategic effort to improve operational effectiveness and competitiveness in the digital economy.

### **H<sub>2</sub>: Trust in QRIS Adoption**

The results of this study indicate that trust has a positive and significant effect on QRIS adoption among MSMEs ( $\beta = 0.284$ ;  $t = 3.756$ ;  $p < 0.001$ ). This finding suggests that MSME owners are more likely to adopt QRIS when they perceive the system as secure, reliable, and capable of protecting financial transaction data. Trust is an essential factor in digital payment adoption because financial transactions involve sensitive information and require confidence in the system's stability and security. MSMEs that trust QRIS tend to feel more comfortable using digital payment systems in their operations, which encourages greater QRIS adoption.

This finding supports previous studies by Musyaffi et al. (2021) and Usman et al. (2024), which found that trust significantly influences the intention to use QRIS and other digital payment technologies. The result also aligns with technology adoption theory, which emphasizes that users are more likely to adopt financial technology when they perceive lower transaction risk and higher system reliability. In the context of MSMEs, trust in QRIS reflects confidence in transaction security, payment accuracy, and system dependability, which ultimately encourages digital payment adoption as part of business digital transformation.

### **H<sub>3</sub>: Social Influence on QRIS Adoption**

The results of this study show that social influence has a positive and significant effect on QRIS adoption among MSMEs ( $\beta = 0.192$ ;  $t = 2.641$ ;  $p = 0.009$ ). This finding indicates that MSME owners are more likely to adopt QRIS when they receive encouragement from customers, business partners, peers, and their surrounding community. The growing consumer preference for cashless transactions also motivates MSMEs to offer QRIS as a payment option to remain competitive and meet customer expectations. Therefore, social influence plays an important role in shaping positive attitudes toward adopting digital payments.

This finding is consistent with the Unified Theory of Acceptance and Use of Technology (UTAUT), which identifies social influence as an important factor of technology adoption behavior. The result also supports previous studies by Muchtar et al. (2024) and Syanova and Fajar (2024), which found that recommendations and support from social environments significantly encourage QRIS adoption. In the context of MSMEs, social influence reflects how market trends and customer

preferences can accelerate digital transformation and encourage businesses to integrate digital payment systems into their operational activities.

#### **H4: Facilitating Conditions on QRIS Adoption**

The results of this study showed that facilitating conditions had a positive and significant effect on QRIS adoption among MSMEs ( $\beta = 0.267$ ;  $t = 3.408$ ;  $p = 0.001$ ). This finding suggests that MSME owners are more likely to adopt QRIS when adequate technological infrastructure, internet access, and technical support are available. The availability of smartphones, stable internet connections, and user-friendly payment applications helps MSMEs implement QRIS more effectively in their business operations. Therefore, stronger facilitating conditions increase the likelihood of successful adoption of digital payments among MSMEs.

[This finding supports the Unified Theory of Acceptance and Use of Technology (UTAUT), which explains that facilitating conditions are important factors of technology adoption behavior. The result is also consistent with previous studies by Cahyasari et al. (2025) and Syanova and Fajar (2024), which found that adequate technological resources and support systems significantly encouraged QRIS adoption. In the context of MSMEs, facilitating conditions reflect businesses' readiness to integrate digital payment technologies into their operations, thereby supporting digital transformation and improving transaction efficiency.

#### **H5: QRIS Adoption on MSME Performance**

The results of this study showed that QRIS adoption had a positive and significant effect on MSME performance ( $\beta = 0.468$ ;  $t = 6.125$ ;  $p < 0.001$ ). This finding suggests that MSMEs that actively adopt QRIS tend to improve operational efficiency, financial management, and overall business performance. The implementation of QRIS enables businesses to conduct transactions more quickly, securely, and conveniently while reducing dependence on cash-based payments. In addition, QRIS simplifies the recording of financial transactions and improves transaction transparency, helping MSMEs manage their business activities more effectively and efficiently.

This finding is consistent with previous studies by Syanova and Fajar (2024) and Cahyasari et al. (2025), which found that digital payment adoption positively contributed to MSME productivity, competitiveness, and business sustainability. The result also supports the digital transformation perspective, which explains that the integration of digital technologies into business operations can improve organizational effectiveness and long-term growth. In the context of MSMEs, QRIS adoption reflects the successful implementation of financial technology that helps businesses adapt to changing consumer preferences and remain competitive in the digital economy.

#### **H6: Perceived Usefulness on MSME Performance**

The results of this study showed that perceived usefulness has a positive and significant effect on MSME performance ( $\beta = 0.241$ ;  $t = 3.215$ ;  $p = 0.001$ ). This finding suggests that MSME owners who perceive QRIS as beneficial are more likely to improve business performance, including better transaction efficiency, operational effectiveness, and financial management. The practical benefits of QRIS, such as faster payment processing, simplified financial record-keeping, and improved customer convenience, help MSMEs optimize their operations and enhance productivity. As a result, the perception that QRIS is useful positively contributes to business growth and competitiveness in the digital economy.

This finding supports the Technology Acceptance Model (TAM), which explains that technologies perceived as useful are more likely to improve organizational outcomes and user performance. The result is also consistent with previous studies on digital transformation and financial technology adoption, which found that digital payment systems positively contribute to operational efficiency and business sustainability among MSMEs. In the context of MSMEs, perceived usefulness reflects QRIS's ability to enable more efficient and effective business processes, thereby strengthening organizational performance and fostering long-term business development.

#### **H<sub>7</sub>: Trust in MSME Performance**

The results of this study indicate that trust has a positive and significant effect on MSME performance ( $\beta = 0.216$ ;  $t = 2.987$ ;  $p = 0.003$ ). This finding indicates that MSME owners with greater trust in QRIS tend to experience better business performance. Trust in the security, reliability, and effectiveness of QRIS encourages MSMEs to utilize digital payment systems more consistently in their business operations. The use of trusted digital payment systems can improve transaction efficiency, enhance customer satisfaction, and support more accurate financial management, which ultimately contributes to improved operational performance and business competitiveness.

This finding is consistent with previous studies by Musyaffi et al. (2021) and Usman et al. (2024), which found that trust is an important factor influencing the effectiveness of digital payment adoption and business outcomes. The result also supports the perspective of digital transformation theory, which emphasizes that trust in technology plays a strategic role in encouraging organizations to optimize digital systems to improve operations. In the context of MSMEs, trust in QRIS reflects confidence in transaction security and system reliability, which can strengthen customer relationships and improve overall business sustainability.

#### **H<sub>8</sub>: Social Influence on MSME Performance**

The results of this study showed that social influence had a positive and significant effect on MSME performance ( $\beta = 0.174$ ;  $t = 2.421$ ;  $p = 0.016$ ). This finding indicates that MSME owners who receive stronger encouragement from customers, business partners, and their surrounding community tend to achieve better business performance. The growing preference for cashless transactions motivates MSMEs to adopt digital payment systems, such as QRIS, to meet customer expectations and improve service quality. As a result, social influence contributes to increased operational effectiveness, customer satisfaction, and business competitiveness in the digital economy.

This finding supports previous studies related to the Unified Theory of Acceptance and Use of Technology (UTAUT), which highlights the importance of social influence in shaping technology adoption behavior and organizational outcomes. The result is also consistent with studies by Muchtar et al. (2024) and Syanova and Fajar (2024), which found that social encouragement and market trends significantly support digital payment adoption and business sustainability. In the context of MSMEs, social influence reflects the role of customer behavior and community support in accelerating digital transformation and improving overall business performance.

#### **H<sub>9</sub>: Facilitating Conditions on MSME Performance**

The results of this study showed that facilitating conditions had a positive and significant effect on MSME performance ( $\beta = 0.201$ ;  $t = 2.756$ ;  $p = 0.006$ ). This finding indicates that MSMEs with better technological infrastructure, internet access, and technical support tend to achieve higher business performance. Adequate facilitating conditions enable MSMEs to implement QRIS more effectively in their daily operations, resulting in improved transaction efficiency, better financial management, and enhanced operational productivity. The availability of reliable digital resources also helps businesses respond more effectively to changing customer preferences and increasing demand for cashless transactions.

This finding is consistent with the Unified Theory of Acceptance and Use of Technology (UTAUT), which emphasizes the importance of facilitating conditions in supporting technology utilization and organizational performance. The result also supports previous studies by Cahyasaki et al. (2025) and Syanova and Fajar (2024), which found that technological readiness and infrastructure significantly contribute to digital payment adoption and business sustainability. In the context of MSMEs, facilitating conditions reflect organizational readiness for digital transformation, ultimately strengthening competitiveness and improving overall business performance.

#### **H<sub>10</sub>: QRIS Adoption as a Mediator between Perceived Usefulness and MSME Performance**

The results of this study showed that QRIS adoption significantly mediated the relationship between perceived usefulness and MSME performance (indirect effect = 0.150;  $t = 3.842$ ;  $p < 0.001$ ). This finding indicates that MSME owners who perceive QRIS as useful are more likely to adopt the system, and this adoption subsequently improves business performance. The practical benefits of QRIS, such as faster transaction processing, improved financial record-keeping, and increased operational efficiency, encourage MSMEs to integrate digital payment systems into their operations. Through QRIS adoption, MSMEs can optimize transaction management, improve customer convenience, and enhance productivity, which ultimately contributes to better organizational performance.

This mediation effect was categorized as partial mediation because both the direct effect of perceived usefulness on MSME performance and the indirect effect through QRIS adoption are statistically significant. The finding supports the Technology Acceptance Model (TAM), which explains that technologies perceived as beneficial are more likely to be adopted and utilized to improve performance outcomes. The result is also consistent with previous studies on digital transformation and financial technology adoption, which emphasize that the perceived benefits of digital systems can strengthen organizational effectiveness through actual technology utilization. In the context of MSMEs, QRIS adoption is an important mechanism for translating perceived technological benefits into improved business competitiveness and sustainability.

#### **H11: QRIS Adoption as a Mediator between Trust and MSME Performance**

The results of this study showed that QRIS adoption significantly mediated the relationship between trust and MSME performance (indirect effect = 0.133;  $t = 3.417$ ;  $p = 0.001$ ). This finding indicates that MSME owners who have greater trust in QRIS's security, reliability, and effectiveness are more likely to adopt the digital payment system, thereby improving business performance. Trust encourages MSMEs to consistently use QRIS in their operations because they perceive the system as safe and reliable for financial transactions. Through QRIS adoption, MSMEs can improve transaction efficiency, simplify financial management, and enhance customer satisfaction, thereby improving operational effectiveness and business competitiveness.

This mediation effect was categorized as partial mediation because both the direct effect of trust on MSME performance and the indirect effect through QRIS adoption are statistically significant. The finding supports previous studies by Musyaffi et al. (2021) and Usman et al. (2024), which found that trust is an important factor influencing digital payment adoption and organizational outcomes. The result also highlights that trust directly affects MSME performance and indirectly improves performance through QRIS adoption as part of the digital transformation process.

#### **H12: QRIS Adoption as a Mediator between Social Influence and MSME Performance**

The results of this study indicate that QRIS adoption significantly mediated the relationship between social influence and MSME performance (indirect effect = 0.090;  $t = 2.538$ ;  $p = 0.011$ ). This finding indicates that encouragement from customers, business partners, peers, and the surrounding community motivates MSME owners to adopt QRIS, thereby improving business performance. The increasing preference for cashless transactions and the growing acceptance of digital payment systems encourage MSMEs to integrate QRIS into their business operations. Through QRIS adoption, MSMEs can improve transaction efficiency, enhance customer convenience, and strengthen financial management, ultimately improving operational effectiveness and competitiveness.

This mediation effect was categorized as partial mediation because both the direct effect of social influence on MSME performance and the indirect effect through QRIS adoption are statistically significant. The finding supports the Unified Theory of Acceptance and Use of Technology (UTAUT), which emphasizes the role of social influence in shaping technology adoption behavior. The result also indicates that social influence directly affects MSME performance and indirectly supports business sustainability through QRIS adoption as part of the digital transformation process.

### **H13: QRIS Adoption as a Mediator between Facilitating Conditions and MSME Performance**

The results of this study showed that QRIS adoption significantly mediated the relationship between facilitating conditions and MSME performance (indirect effect = 0.125;  $t = 3.106$ ;  $p = 0.002$ ). This finding indicates that MSMEs with adequate technological infrastructure, internet access, and technical support are more likely to adopt QRIS, thereby improving business performance. The availability of reliable digital resources enables MSMEs to implement QRIS more effectively in their operational activities, resulting in faster transactions, improved financial management, and greater operational efficiency. Through QRIS adoption, MSMEs can optimize business processes and respond more effectively to increasing demand for digital payment services.

This mediation effect was categorized as partial mediation because both the direct effect of facilitating conditions on MSME performance and the indirect effect through QRIS adoption are statistically significant. The finding supports the Unified Theory of Acceptance and Use of Technology (UTAUT), which explains that facilitating conditions are important factors in technology use and organizational outcomes. The result also indicates that facilitating conditions directly improve MSME performance and indirectly support business sustainability and competitiveness through QRIS adoption as part of the digital transformation process.

### **Discussion**

The findings indicate that perceived usefulness has a significant positive effect on QRIS adoption. This means that MSME owners are more inclined to adopt QRIS when they believe that the technology can enhance transaction efficiency and improve business productivity. This result is in line with the Technology Acceptance Model, which identifies perceived usefulness as a key driver of technology adoption. Previous research has also shown that users are more likely to adopt QRIS and similar digital payment systems when they perceive clear benefits from their use. In addition, trust is found to have a significant influence on QRIS adoption. This highlights the importance of security and system reliability in digital payment usage. MSME owners tend to adopt QRIS when they are confident that the system is secure, dependable, and capable of safeguarding financial transaction data. This finding supports previous studies highlighting the role of digital transformation in improving business competitiveness and supporting long-term sustainability.

Furthermore, social influence significantly affects QRIS adoption. MSME owners are more likely to use QRIS when they receive encouragement from customers, business partners, or their surrounding community. The growing preference for cashless transactions further encourages MSMEs to adopt QRIS. Facilitating conditions are also found to significantly affect QRIS adoption. The availability of adequate infrastructure, reliable internet access, and sufficient technical support enables MSME owners to implement digital payment systems more effectively. Businesses with better access to digital resources are more likely to integrate QRIS into their daily operations. Finally, QRIS adoption has a strong positive effect on MSME performance. Digital payment systems help businesses process transactions more efficiently, manage financial records more effectively, and serve a broader customer base. These findings support previous studies highlighting the role of digital transformation in enhancing business competitiveness and ensuring long-term sustainability.

This indicates that MSMEs perceive QRIS as both a payment tool and a mechanism to reduce transaction uncertainty and operational risk. This finding is consistent with Musyaffi et al. (2021) while extending prior research by demonstrating the relevance of trust in the MSME operational context rather than merely in consumer behavior. This indicates that trust functions as a strategic enabler of digital transformation, not merely a psychological factor. The findings indicate that QRIS adoption represents more than technological adoption; it reflects a shift toward digitally integrated business processes. This aligns with digital transformation theory, which explains that technology adoption leads to structural and operational changes within organizations.

### **CONCLUSION AND SUGGESTION**

This study explores the relationship between QRIS adoption and MSME performance within the framework of digital transformation. The findings reveal that perceived usefulness, trust, social influence, and facilitating conditions significantly affect the adoption of QRIS among MSME owners. These results indicate that MSMEs are more likely to adopt digital payment technologies when they recognize clear benefits, trust the system's security, receive support from their environment, and possess sufficient technological infrastructure. Furthermore, the results reveal that QRIS adoption significantly improves MSME performance. The use of QRIS enables businesses to conduct transactions more efficiently, improve financial record management, and enhance operational effectiveness, thereby supporting business growth and competitiveness.

From a theoretical standpoint, this study contributes to the existing literature on digital payment adoption and technology acceptance by integrating digital transformation concepts into well-established models, such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT). While earlier research has largely concentrated on identifying the factors driving digital payment adoption, this study broadens the discussion by exploring the impact of QRIS adoption on MSME performance. This research provides empirical evidence that digital payment adoption can serve as an important mechanism supporting the digital transformation of small businesses and improving organizational performance.

Policymakers should design targeted digital literacy programs for MSMEs, particularly on QRIS-based transaction management and financial record-keeping. Financial service providers and fintech companies should enhance system security, user experience, and technical support services to increase trust and ease of use for MSME users. For MSME owners, adopting digital payment systems such as QRIS can improve business efficiency, facilitate financial management, and expand market opportunities in the digital economy. Fintech providers should simplify onboarding processes and provide real-time transaction analytics dashboards customized for MSMEs. MSMEs are encouraged to integrate QRIS into their daily operations, particularly for high-frequency transactions, to improve cash flow monitoring and reduce reliance on cash.

Despite its contributions, this study has several limitations that should be considered in future research. First, the focus on MSMEs within a limited geographical area may reduce the generalizability of the findings. Therefore, future studies are encouraged to broaden the scope by involving MSMEs from various regions or industry sectors to gain more comprehensive insights. Second, the research model focuses mainly on technological and behavioral factors influencing QRIS adoption. Future research could incorporate additional variables such as digital literacy, perceived security, innovation capability, or customer satisfaction to provide a broader understanding of digital payment adoption. Finally, longitudinal studies may provide deeper insights into how QRIS adoption influences MSME performance over time as digital transformation continues to evolve.

### **Theoretical Implications**

This study offers several theoretical implications for the literature on technology adoption, digital payments, and digital transformation among MSMEs. First, the findings extend the applicability of the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) by demonstrating that technology adoption factors influence both digital payment adoption and organizational performance. This finding broadens the traditional scope of TAM and UTAUT, which have predominantly focused on individual technology acceptance behavior.

Second, this study contributes to the digital transformation literature by positioning QRIS adoption as a strategic mechanism through which technological and social factors are interpreted into improved MSME performance. The significant mediating role of QRIS adoption indicates that digital payment technologies should not be viewed merely as transactional tools but as enablers of organizational transformation, improving operational efficiency, financial management, and business competitiveness.

Third, the study integrates technological factors (perceived usefulness), behavioral factors (trust), and environmental factors (social influence and facilitating conditions) into a unified framework to explain MSME performance. This integrated approach enriches understanding of how digital transformation unfolds in small-business environments and provides empirical support for the argument that improvements in organizational performance arise from the interaction between technology acceptance and digital transformation processes.

## REFERENCES

- Anatan, L., & Nur, A. (2023). Micro, Small, and Medium Enterprises' Readiness for Digital Transformation in Indonesia. *Economies*, 11(6), 156. <https://doi.org/10.3390/economies11060156>
- Badrawani, W. (2025). Digital payment policy impact analysis on the intention to use QRIS (Quick Response Code Indonesian Standard) during COVID-19 pandemic. arXiv. <https://doi.org/10.48550/arXiv.2506.11695>
- Cahyasari, D., Hamidah, & Widyastuti, U. (2025). Digitalization of micro-sized enterprises: Determinants of Quick Response Code Indonesian Standard (QRIS), FinTech usage behavior, and implications for business sustainability. *ABAC Journal*, 45(3), 114–137. <https://doi.org/10.59865/abacj.2025.18>.
- Cassaro, E., Oro, I. M., Begnini, S., & Georges, M. R. R. (2024). The influence of digital transformation and implementation barriers on innovation in Brazilian micro, small, and medium enterprises. *Small Business International Review*, 8(2), e660. <https://doi.org/10.26784/sbir.v8i2.660>
- Chotisarn, N., & Phuthong, T. (2025). A bibliometric analysis insights into the intellectual dynamics of artificial intelligence for the micro, small, and medium enterprises. *Cogent Business & Management*, 12(1), 2491684. <https://doi.org/10.1080/23311975.2025.2491684>
- Gaffar, V., Koeswandi, T., & Suhud, U. (2022). Has the COVID-19 pandemic accelerated the digital transformation of micro, small and medium-sized enterprises in Indonesia? *Teorija in Praksa*, 59(3), 729–744. <https://doi.org/10.51936/tip.59.3.729-744>
- Khan, M. A. I., & Abdul, M. (2023). Does managerial propensity towards digitalization enhance firm performance? A case study of Indian MSMEs. *International Journal of Applied Economics, Finance and Accounting*, 17(1), 168–175. <https://doi.org/10.33094/ijaefa.v17i1.1093>
- Komala, A. R., & Firdaus, D. W. (2023). Improving the quality of financial statements and the survival of MSMEs through digital economy: The case of Indonesia and Malaysia. *Journal of Eastern European and Central Asian Research (JEECAR)*, 10(5), 753–763. <https://doi.org/10.15549/jeecar.v10i5.1435>.
- Machado, E., Scavarda, L. F., Caiado, R. G. G., & Thomé, A. M. T. (2021). Barriers and enablers for the integration of Industry 4.0 and sustainability in supply chains of MSMEs. *Sustainability*, 13(21), 11664. <https://doi.org/10.3390/su13211166>
- Marolt, M., Lenart, G., Kljajić Borštnar, M., & Pucihar, A. (2025). Exploring digital transformation journey among micro, small-, and medium-sized enterprises. *Systems*, 13(1), 1. <https://doi.org/10.3390/systems13010001>
- Moustier, P., Holdsworth, M., Anh, D. T., Seck, P. A., Renting, H., Caron, P., & Bricas, N. (2023). Priorities for inclusive urban food system transformations in the Global South. In J. von Braun, K. Afsana, L. O. Fresco, & M. H. A. Hassan (Eds.), *Science and innovations for food systems transformation* (pp. 281–303). Springer. [https://doi.org/10.1007/978-3-031-15703-5\\_15](https://doi.org/10.1007/978-3-031-15703-5_15).
- Muchtar, E. H., Trianto, B., Maulana, I., Alim, M. N., Marasabessy, R. H., Hidayat, W., Junaedi, E., & Masrizal. (2024). Quick response code Indonesia standard (QRIS) e-payment adoption: Customers perspective. *Cogent Business & Management*, 11(1), 2316044. <https://doi.org/10.1080/23311975.2024.2316044>

- Mujianto, M., Hartoyo, H., Nurmalinga, R., & Yusuf, E. Z. (2023). The unraveling loyalty model of traditional retail to suppliers for business sustainability in the digital transformation era: Insight from MSMEs in Indonesia. *Sustainability*, 15(3), 2827. <https://doi.org/10.3390/su15032827>
- Musyaffi, A. M., Johari, R. J., Rosnidah, I., Sari, D. A. P., Amal, M. I., Tasyrifania, I., Pertiwia, S. A., & Sutanti, F. D. (2021). Digital payment during pandemic: An extension of the unified model of QR code. *Academic Journal of Interdisciplinary Studies*, 10(6), 213–223. <https://doi.org/10.36941/ajis-2021-0166>.
- Putra, H. M., Sofanudin, A., Ahyani, H., Surbakti, M. H., Sonjaya, A., Martiningsih, D., Ulum, R., & Utaberta, N. (2025). Digital integration in mosque architecture: QRIS, visitor experience, and cultural heritage preservation in Indonesia. *Journal of Islamic Architecture*, 8(4), 1083–1092. <https://doi.org/10.18860/jia.v8i4.35992>
- Putritamara, J. A., Hartono, B., Toiba, H., Utami, H. N., Rahman, M. S., & Masyithoh, D. (2023). Do dynamic capabilities and digital transformation improve business resilience during the COVID-19 pandemic? Insights from beekeeping MSMEs in Indonesia. *Sustainability*, 15(3), 1760. <https://doi.org/10.3390/su15031760>.
- Rahmayanti, P. L. D., Giantari, I. G. A. K., Ekawati, N. W., & Setiawan, P. Y. (2025). Digital financial transformation in religious traditions: Analyzing QRIS usage intentions for Dana Punia in Bali. *Edelweiss Applied Science and Technology*, 9(6), 345–362. <https://doi.org/10.55214/25768484.v9i6.7812>
- Sagala, G. H., & Ōri, D. (2024). Toward SMEs digital transformation success: A systematic literature review. *Information Systems and e-Business Management*, 22(4), 667–719. <https://doi.org/10.1007/s10257-024-00682-2>
- Syanova, R., & Fajar, A. N. (2024). Analysis of factors that influence use behaviour of using QRIS payments for UMKM in Bekasi. *Journal of Logistics, Informatics and Service Science*, 11(7), 324–341. <https://doi.org/10.33168/JLISS.2024.0717>
- Tenggino, D., & Mauritsius, T. (2022). Evaluation of factors affecting intention to use QRIS payment transaction. *ICIC Express Letters*, 16(4), 343–349. <https://doi.org/10.24507/icicel.16.04.343>
- Usman, O., Alianti, M., & Fadillah, F. N. (2024). Factors affecting the intention to use QRIS on MSME customers. *International Journal of Applied Economics, Finance and Accounting*, 18(1), 77–87. <https://doi.org/10.33094/ijaefa.v18i1.1323>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478. <https://doi.org/10.2307/30036540>