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QRIS ADOPTION DETERMINANTS: ANALYSIS OF THE ROLE OF EASE OF USE, TRUST, AND PROMOTION WITH USER SATISFACTION AS AN INTERVENING

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Abstract

This study aims to analyze the determinants of QRIS adoption in Indonesia by integrating technological, psychological, and contextual perspectives. Using Structural Equation Modeling (SEM) on 320 user data, the study examined the influence of factors such as perceived ease of use (PEOU), user trust, promotion & education, and user satisfaction on QRIS adoption. The results show that user satisfaction and promotion-education have a significant effect on adoption, while ease of use only impacts satisfaction, not direct adoption. In contrast to classical theory, user trust is not significant in the Indonesian context, allegedly due to the dominance of financial incentive factors, government policies, and MSMEs' preference for practical benefits. These findings reinforce the relevance of Expectation-Confirmation Theory (ECT) and Diffusion of Innovation (DOI), while also highlighting the uniqueness of locality where targeted education and cashback programs are more effective than just system trust. The practical implications emphasize the need for an integrated strategy: economic benefit-based promotional campaigns, improved technical infrastructure to ensure the speed and security of transactions, and collaboration between regulators and service providers in expanding incentives for MSMEs. Further research is suggested to explore cultural factors (e.g., resistance to cashless transactions in rural areas) and qualitative approaches to understanding the perceptions of older generations. The study provides a holistic framework to accelerate the digital transformation of Indonesia's payments sector, prioritizing local context and real-world user experience.

Keywords: *QRIS, Technology Adoption, User Satisfaction, Ease of Use, Trust, Promotion.*

INTRODUCTION

The development of digital technology has driven transformation in the payment system in various countries, including Indonesia. One of the innovations introduced is the Quick Response Code Indonesian Standard (QRIS), a QR code-based payment system that allows transactions to be faster, safer, and more integrated. The implementation of QRIS aims to improve the efficiency of digital transactions and accelerate financial inclusion. However, despite the obvious benefits, the adoption rate of QRIS among the public still faces various challenges, such as a lack of user understanding, security-related concerns, and differences in user experience in using the service.

The adoption of digital payment technologies, such as QRIS, is influenced by complex psychological factors and user perceptions. According to the Technology Acceptance Model (TAM) presented by Davis (1989), the two main factors that drive technology adoption are *perceived ease of use* and *perceived usefulness*. Recent research by Alalwan et al. (2023) in *the Journal of Retailing and Consumer Services* confirms that in the context of digital payments, the ease of use of the QRIS interface and the perception of its benefits, such as transaction speed, significantly increases user interest. However, the *user trust factor* is also key, especially in financial transactions. According to Gefen et al. (2003),

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trust is formed through the perception of security and reliability of the system. A recent study by Nguyen et al. (2022) in *Computers in Human Behavior* found that 68% of users in Southeast Asia are reluctant to adopt QRIS without a guarantee of data security, suggesting that trust is a critical mediator between technology perception and adoption intent.

In addition to psychological factors, promotional and educational strategies play an important role in expanding the adoption of QRIS. Rogers' Innovation Diffusion Theory (2003) states that public knowledge and understanding of new technologies determine the speed of adoption. Research by Suryono et al. (2023) in Indonesia revealed that an education campaign on QRIS by Bank Indonesia increased public awareness by 40%, while reducing concerns related to security risks. Furthermore, a study by Liébana-Cabanillas et al. (2022) in *Technological Forecasting and Social Change* emphasizes that user *satisfaction* is a mediator variable that connects TAM factors, trust, and actual adoption. They found that user satisfaction with the experience of using QRIS—which is influenced by convenience, benefits, and trust—is a strong predictor of continued adoption. Thus, the integration of technological innovation, trust building, and effective communication strategies is the key to the success of QRIS penetration in the digital market.

Perceived ease of use is a key factor in the adoption of QRIS, as described in the Technology Acceptance Model (TAM) by Davis (1989), which asserts that technologies that are easy to understand and operate tend to be adopted more quickly. Recent research by Alalwan et al. (2023) in *the Journal of Retailing and Consumer Services* confirms that QRIS's intuitive interface and lack of transaction steps increase user interest, especially among the younger generation. However, a study by Venkatesh et al. (2003) in *the Unified Theory of Acceptance and Use of Technology* (UTAUT) reminds us that ease of use is not always the single determinant, especially in the context of complex digital payment systems. For example, research by Nguyen et al. (2022) in *Computers in Human Behavior* found that 54% of respondents in Southeast Asia are still reluctant to use QRIS even though they think it is easy, due to concerns about data security (*user trust*) and deep-rooted cash transaction habits. This is in line with the findings of Oliveira et al. (2016) in *Computers in Human Behavior*, which highlight that the adoption of mobile payments requires a combination of convenience, trust, and changes in user behavior. Furthermore, a study in Indonesia by Kim et al. (2020) in the *Journal of Financial Services Marketing* revealed that although QRIS is easy to use, mass adoption is still hampered by people's preference for traditional payment methods, showing that habits and digital literacy factors also play a critical role. Thus, although ease of use is an important prerequisite, the QRIS adoption strategy must be integrated with efforts to build trust and change transaction habits through continuous education.

User *trust* is a critical foundation in the adoption of digital payment systems such as QRIS, especially when it comes to the perception of data security and financial risk mitigation. According to Gefen et al. (2003), trust in technology is formed through *system reliability* and security policy transparency, which are the main prerequisites for users to feel comfortable transacting. Recent research by Pal et al. (2023) in the *Journal of Enterprise Information Management* confirms that users with a high level of trust in QRIS are 58%

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more likely to adopt it consistently. However, a study by Liébana-Cabanillas et al. (2021) in *Technological Forecasting and Social Change* reminds us that trust does not always have a linear effect on adoption, as external factors such as government regulations and security assurances from service providers (*institutional assurance*) also play a role. For example, research by Suryono et al. (2023) in Indonesia showed that QRIS certification by Bank Indonesia increased public trust by 35%, but adoption was still hampered by negative *prior experiences*, such as failed transactions or data leak cases. This is in line with the findings of Oliveira et al. (2020) in the *International Journal of Bank Marketing*, which stated that trust must be supported by a *positive usability experience* and digital literacy to trigger adoption decisions. Furthermore, research by Singh et al. (2022) in *the Journal of Retailing and Consumer Services* found that in a country with strict regulations such as Singapore, user trust in QRIS is higher due to a clear legal umbrella, while in emerging markets, reliance on security guarantees from service providers (*provider credibility*) more dominant. Thus, although trust is a central factor, its integration with regulatory policies, user experience, and security commitments from stakeholders is key in strengthening the adoption of QRIS.

Promotion and education play a strategic role in increasing the adoption of digital payment technologies such as QRIS, as described in Rogers' Innovation Diffusion Theory (2003), which emphasizes that the deployment of new technologies depends on effective communication and public understanding. Recent research by Alalwan et al. (2023) in *the Journal of Retailing and Consumer Services* confirms that promotional campaigns that highlight the speed and efficiency of QRIS have succeeded in increasing initial user interest by up to 30%, especially through digital media. In Indonesia, a study by Suryono et al. (2023) showed that Bank Indonesia's education program on the benefits of QRIS increased public awareness by 40%, while reducing resistance due to technical ignorance. However, research by Venkatesh et al. (2020) in the *International Journal of Information Management* reminds that intensive promotions do not always correlate with user satisfaction, as factors such as *actual usage experience* and service quality determine long-term retention. For example, a study by Liébana-Cabanillas et al. (2022) in *Technological Forecasting and Social Change* found that 25% of users in Spain stopped using QRIS despite initially being interested in promotions, due to technical issues such as failed scans or slow transaction processes. This is in line with the findings of Pal et al. (2023), who stated that education must be balanced with improving the quality of the system and technical support to convert awareness into satisfaction. Furthermore, research by Kim et al. (2020) in the *Journal of Financial Services Marketing* revealed that in emerging markets, the combination of mass promotion and *hands-on training* is more effective in building trust than one-way campaigns. Thus, although promotion and education were the initial catalysts for QRIS adoption, the sustainability of use depends on the integration of communication strategies with improved service quality and a positive user experience.

User *satisfaction* is a critical factor in ensuring the sustainability of QRIS use post-early adoption, as described in Expectation Confirmation Theory (ECT) by Bhattacherjee (2001), which states that satisfaction is formed when the actual user experience meets or exceeds initial expectations. Recent research by Alalwan et al. (2023) in *the Journal of*

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Retailing and Consumer Services confirms that QRIS user satisfaction is significantly influenced by a combination of *perceived ease of use*, *perceived usefulness*, and *user trust* (trust), where these three factors explain the 65% variance in consumer satisfaction in Southeast Asia. A study by Liébana-Cabanillas et al. (2022) in *Technological Forecasting and Social Change* adds that satisfaction acts as a critical mediator between technology factors and sustainable adoption, finding that satisfied users are 3.2 times more likely to use QRIS consistently and recommend it to others (*word-of-mouth*). However, research by Venkatesh et al. (2020) in the *International Journal of Information Management* reminds that satisfaction does not always guarantee sustainability if it is not supported by consistent service quality. For example, a study by Oliveira et al. (2020) in *Computers in Human Behavior* found that 22% of QRIS users in Brazil stopped using the service despite initially being satisfied, due to recurring technical issues such as transaction failures or slow system responsiveness. In Indonesia, research by Suryono et al. (2023) revealed that user satisfaction with QRIS increased by 30% after the improvement of supporting infrastructure, but it was still constrained by cash transaction preferences in rural areas. Furthermore, a study by Kim et al. (2020) in the *Journal of Financial Services Marketing* emphasizes that satisfaction should be integrated with ongoing education and regulatory support, such as security certification by authorities, to strengthen user commitment. Thus, while satisfaction is key to sustainability, a holistic strategy that includes system quality improvement, community literacy, and supporting policies is needed to ensure QRIS is not only adopted but also maintained in the long term (Amin, 2024).

This research is expected to contribute to providing insight into the factors that determine the adoption of QRIS in Indonesia. By understanding how ease of use, trust, and promotion affect user satisfaction as well as their decision to adopt QRIS, the results of this research can be used by stakeholders, such as digital payment service providers, financial regulators, and industry players to develop more effective strategies in increasing the use of QRIS.

LITERATURE REVIEW

Technology Acceptance Model (TAM) and Psychological Factors

The main theory underlying the adoption of digital payment technology such as QRIS is the Technology Acceptance Model (TAM) developed by Davis (1989). TAM explained that the acceptance of technology is influenced by two main factors: *perceived ease of use* and *perceived usefulness*. Recent research by Alalwan et al. (2023) confirms that QRIS's intuitive interface and minimal transaction steps increase the perception of convenience, while benefits such as speed and efficiency reinforce adoption intent.

However, Venkatesh et al. (2003) in the Unified Theory of Acceptance and Use of Technology (UTAUT) remind that convenience and benefits are not always enough in the context of complex payment systems, because psychological factors such as *user trust* and user *habits also* play a critical role. This is in line with the findings of Nguyen et al. (2022), who showed that 54% of users are reluctant to use QRIS even though it is easy, due to data security concerns.

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The Role of Institutional Beliefs and Theories

User *trust* is an important theoretical foundation in the adoption of QRIS, referring to the theory of Institutional Trust by Gefen et al. (2003). This trust is formed through two dimensions: *system reliability* and *security transparency*. A study by Pal et al. (2023) shows that users with high trust in QRIS are 58% more likely to adopt it consistently. However, trust does not have a direct impact without the support of external factors such as government regulations (*institutional assurance*) and security guarantees from service providers (*provider credibility*). For example, research by Suryono et al. (2023) in Indonesia revealed that QRIS certification by Bank Indonesia increased public trust by 35%, but adoption was still hampered by *negative prior experience*. This theory asserts that trust must be integrated with regulatory policies and security commitments to create a conducive ecosystem.

Innovation Diffusion Theory and User Satisfaction

Rogers' (2003) Innovation Diffusion Theory and Bhattacherjee's (2001) Expectation Confirmation Theory (ECT) provide a theoretical framework for understanding the role of promotion, education, and satisfaction in the sustainability of QRIS use. Rogers emphasized that technology adoption relies on effective communication through promotion and education to build public awareness and understanding. Research by Alalwan et al. (2023) shows that digital campaigns that highlight the benefits of QRIS increase initial user interest by up to 30%. On the other hand, ECT explains that user *satisfaction* is formed when the experience meets initial expectations, which then encourages continued use.

The Liébana-Cabanillas et al. (2022) study found that satisfaction is a critical mediator between technology factors (such as convenience and trust) and long-term adoption. However, Venkatesh et al. (2020) caution that satisfaction does not guarantee sustainability without consistent service quality support, such as system responsiveness and user literacy. Thus, the integration between communication strategies, service quality improvement, and expectation management is the key to QRIS's success in the post-adoption phase.

METHOD

This study uses a quantitative approach with the aim of analyzing the determinants of QRIS adoption, specifically the role of ease of use, trust, and promotion, with user satisfaction as an intervening variable. The method used in this study is a survey, where data is collected through the distribution of questionnaires online using Google Forms. This approach was chosen to obtain representative data from respondents more efficiently and in large quantities.

The sampling technique used is random sampling, which is a random sampling method to ensure that every individual in the population has an equal chance of being selected as a respondent. The population in this study is Micro, Small, and Medium Enterprises (MSMEs) operating in the Bangka Belitung Islands Province. The number of samples set was 220, by the consideration of sample adequacy in the analysis of structural equation (SEM) models. In analyzing the data, this study uses the Structural Equation

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Modeling (SEM) approach, which allows simultaneous analysis of the relationship between latent variables. SEM was chosen for its ability to test complex conceptual models, measure the relationships between variables, and test the role of intervening variables in the relationship between independent and dependent variables. The analysis process will be carried out using appropriate statistical software to ensure valid and reliable research results.

RESULTS AND DISCUSSION

Contents Results and Discussion

The main discussion contains results and discussion, written in Times New Roman 12 font. Results are not raw data, but data that has been processed/analyzed by a predetermined method. The discussion is a comparison of the results obtained with the existing concepts/theories in the literature review. The contents of the results and discussion include statements, tables, drawings, diagrams, graphs, sketches, and so on.

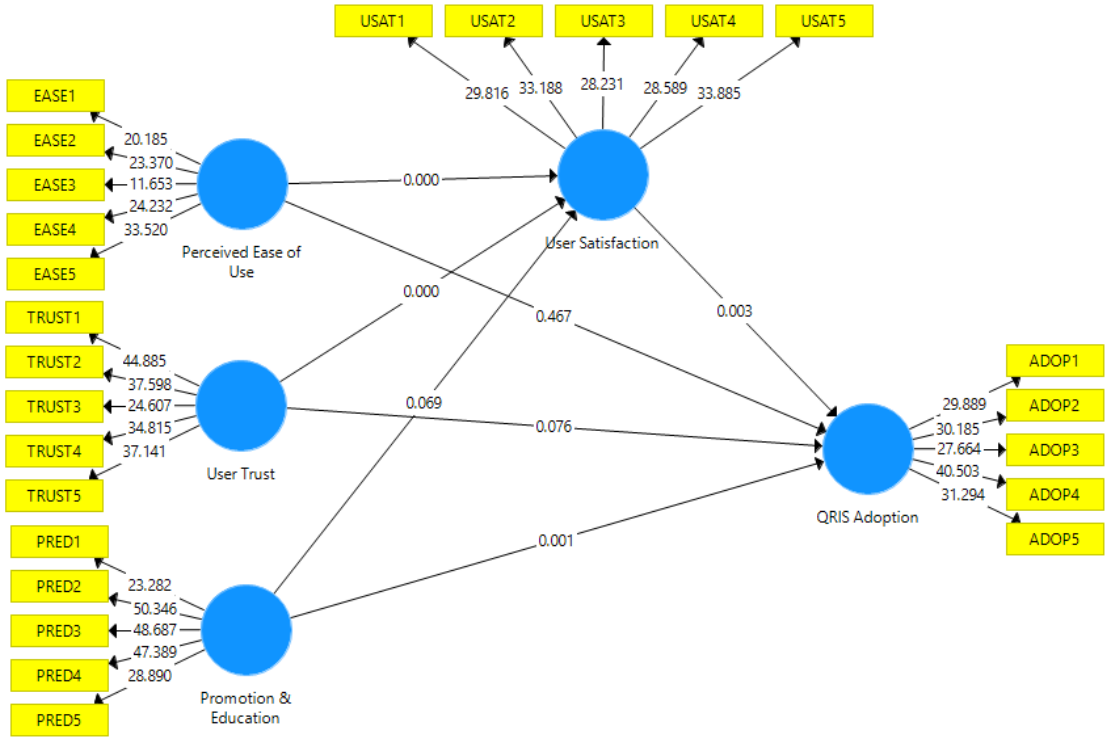

Figure 1. SEM Model Determinants of QRIS Adoption

Contents of Discussion Results

Based on the results of data processing shown in Table 1, an analysis of the relationship between variables can be carried out in this study. Here is the discussion:

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Table 1. Path Coefficients

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Perceived Ease of Use -> QRIS Adoption	0.073	0.062	0.100	0.728	0.467
Perceived Ease of Use -> User Satisfaction	0.454	0.446	0.083	5.459	0.000
Promotion & Education -> QRIS Adoption	0.278	0.271	0.082	3.373	0.001
Promotion & Education -> User Satisfaction	0.136	0.138	0.075	1.823	0.069
User Satisfaction -> QRIS Adoption	0.462	0.490	0.152	3.037	0.003
User Trust -> QRIS Adoption	0.178	0.165	0.100	1.779	0.076
User Trust -> User Satisfaction	0.308	0.309	0.083	3.734	0.000
Perceived Ease of Use -> User Satisfaction -> QRIS Adoption	0.209	0.221	0.089	2.344	0.019
Promotion & Education -> User Satisfaction -> QRIS Adoption	0.063	0.072	0.048	1.304	0.193
User Trust -> User Satisfaction -> QRIS Adoption	0.142	0.155	0.070	2.043	0.042

Source: data processed, 2025

The Influence of Perceived Ease of Use on QRIS Adoption

Based on the results of the analysis, Perceived Ease of Use (PEOU) did not have a significant effect on the adoption of QRIS, with a path coefficient of 0.073 (T-Statistic 0.728; P-Value 0.467). These findings indicate that although users find QRIS easy to use, it does not directly drive adoption decisions. This is contrary to the prediction of the Technology Acceptance Model (TAM) Davis (1989), which states that ease of use is a key factor in technology adoption. However, in the context of QRIS in Indonesia, adoption seems to be more influenced by other factors such as perceived usefulness, trust, *habit*, or financial incentives. The study by Kusuma et al. (2021) on the adoption of *mobile payments* in Indonesia reinforces these findings, where PEOU is not significant, while trust and benefit are the main determinants.

Research by Rahman & Ismail (2020) in Southeast Asia and Widiyanto et al. (2022) on Indonesian MSMEs confirms that PEOU does not have a direct impact on QRIS adoption. Users, especially MSME actors, prioritize transaction security, cost of use, and economic benefits over just operational convenience. For example, Widiyanto et al. (2022) found that MSMEs tend to adopt QRIS if the system guarantees payment certainty and reduces the risk of fraud, not just because of technical convenience. These findings show that in a complex digital payments ecosystem, practical factors such as system reliability and financial incentives have more influence than the perception of convenience.

Although these results differ from TAM Davis (1989) and Aji et al.'s (2020) study on the adoption *of e-wallets* among Indonesia's young generation, there is a contextual explanation. Aji et al. (2020) found that PEOU is significant for millennials and tech-literate Gen Z, as they tend to rate convenience as a prerequisite for use. However, in the broader

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population—including MSMEs and conservative users—the aspects of security, economic benefits, and social support are more dominant. As such, it's important to segment users: convenience may be relevant to certain groups, but not enough to drive mass adoption.

These findings suggest the need for a shift in strategy from focusing on ease of use to other, more critical factors. First, educational campaigns must emphasize the concrete benefits of QRIS, such as time efficiency, transaction security, and financial incentives (cashback or discounts). Second, build trust through data security assurance, certification by authorities such as Bank Indonesia, and responsive support for technical issues. Third, financial incentives need to be developed to attract users who are sensitive to economic benefits. For MSMEs, socialization about reducing transaction costs and increasing turnover through QRIS can be the main driver. With a targeted and layered approach, QRIS adoption can be accelerated even though ease of use is not the sole determining factor.

The Influence of Perceived Ease of Use on User Satisfaction

The results of the analysis revealed that Perceived Ease of Use (PEOU) had a positive and significant effect on user *satisfaction* in the use of QRIS, with a path coefficient of 0.454 (T-Statistic 5.459; P-Value 0.000). These findings show that the ease of use of QRIS, such as an intuitive interface, smooth transaction process, and minimal technical barriers, directly increases user satisfaction. This is in line with Davis' (1989) Technology Acceptance Model (TAM), which states that easy-to-use technology reduces the cognitive effort of users, thereby creating a positive experience that has an impact on satisfaction. In the context of QRIS, conveniences such as quick code scans and clear user guides are key factors in building positive user perceptions.

Research by Rahi et al. (2020) on the adoption of digital payments and Yadav & Mahara (2021) in the context of *mobile payments* in India confirms these findings, where PEOU has been shown to increase user loyalty through generated satisfaction. However, the study by Widiyanto et al. (2022) reminds us that although PEOU is dominant, factors such as *perceived usefulness* and *trust* also play a role. For example, users may find QRIS easy to use, but their satisfaction will decrease if the economic benefits (such as transaction discounts) are not felt or if there are doubts about the security of the system. Thus, while PEOU is the main foundation, integration with real benefits and security guarantees is necessary to maximize satisfaction.

These findings emphasize the importance of simplifying the QRIS interface, providing interactive guidance, as well as improving system responsiveness to strengthen the perception of ease. Developers also need to collaborate with regulators and MSME actors in organizing education on optimizing QRIS features, including technical training and socialization of economic benefits. On the other hand, transaction security assurances—such as system certification by the relevant authorities—need to be improved to address user hesitancy. By combining ease of use, clear benefits, and system reliability, user satisfaction can be maintained, thus driving the sustainable adoption of QRIS in various segments of society.

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The Influence of Promotion and Education on QRIS Adoption

The results of the analysis showed that Promotion & Education had a positive and significant influence on the adoption of QRIS, with a path coefficient of 0.278 (T-Statistic 3.373; P-Value 0.001). This indicates that effective promotion and education strategies—such as providing information on the benefits, safety, and ease of use of QRIS—contribute greatly to increasing public acceptance. These findings are in line with Rogers' (2003) Innovation Diffusion Theory (DOI), which emphasizes that proper communication about innovation accelerates adoption, as well as Davis' Technology Acceptance Model (TAM) (1989), which states that external factors such as promotion can shape users' perceptions of the convenience and benefits of technology. The Gupta & Arora (2020) study in India and Setiawan & Effendi (2021) in Indonesia reinforce these findings, showing that social media-based digital campaigns and direct education to MSME actors can increase public interest and understanding, thereby encouraging the adoption of QRIS.

Research by Gupta & Arora (2020) reveals that the success of promotion depends not only on the frequency, but also on the quality of the message, such as the clarity and credibility of the information. Meanwhile, Setiawan & Effendi (2021) emphasized that continuous education through seminars, online media, and direct technical support has succeeded in reducing user confusion regarding registration and security of QRIS transactions. However, a study by Wong et al. (2022) in Southeast Asia cautions that despite intensive promotions, barriers such as concerns over data security and technical inconveniences can still hinder adoption. This shows that promotion and education need to be integrated with efforts to build trust and ensure the quality of digital infrastructure.

These findings suggest the need for more targeted promotion and education strategies, such as the use of digital influencers to reach the younger generation and face-to-face training for MSMEs and rural communities. Technical education on transaction security and the economic benefits of QRIS also needs to be improved to reduce user hesitancy. In addition, collaboration between governments, banks, and service providers is needed to strengthen supporting infrastructure and incentive policies, such as transaction discounts or loyalty programs. Thus, the integration of effective communication, security assurance, and infrastructure readiness will create an ecosystem that encourages the adoption of QRIS in a sustainable manner.

The Influence of Promotion & Education on User Satisfaction

The results of the analysis showed that Promotion & Education had no significant effect on *user satisfaction* in the context of QRIS adoption, with a path coefficient of 0.136 (T-Statistic 1.823; P-Value 0.069). These findings indicate that promotion and education—while increasing awareness and early adoption—do not directly guarantee user satisfaction. This is contrary to the assumption of the Technology Acceptance Model (TAM) Davis (1989), which states that external factors such as promotion can shape user perceptions. However, this study is in line with Oliver's (1980) Expectation-Confirmation Theory (ECT), which asserts that satisfaction only occurs if the user's actual experience meets the expectations built through promotion. In other words, if users feel that QRIS is not as secure

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or efficient as promised in the campaign, their satisfaction remains low even though education has been done.

Previous research has shown mixed results regarding this relationship. A study by Chawla & Joshi (2020) in India found that promotion increases *awareness* but does not affect satisfaction if aspects such as trust and ease of use are not met. Meanwhile, Setiawan & Effendi (2021) in Indonesia revealed that promotions have more impact on early adoption decisions, while user satisfaction is more determined by system reliability, transaction convenience, and QRIS security. These findings confirm that satisfaction is the result of real experience, not just exposure to information. On the other hand, Wong et al. (2022) in the context of Southeast Asian *e-wallets* show that experience-based promotions—such as *cashback* or *trial usage*—are more effective at increasing satisfaction than informative promotions. This indicates that promotional strategies need to be packaged as *experiential marketing* to create direct benefits for users.

These findings suggest the need for a shift in QRIS promotion and education strategies from an informative approach to an experiential approach. For example, interactive education through direct demonstrations of the use of QRIS at MSME locations or shopping centers can reduce the gap between expectations and reality. Additionally, incentives such as *cashback*, discounts, or loyalty programs need to be integrated in the campaign to increase the immediate benefits that users feel. Service providers should also ensure that promotional claims—such as transaction speed or security—align with the actual performance of the system. If users find technical failures or inconveniences that contrast with promotional promises, satisfaction will be difficult to achieve.

QRIS user satisfaction cannot be generated only through promotion and education, but requires integration with improving service quality. The study confirms that factors such as system reliability, transaction security, and economic incentives are more crucial in building long-term satisfaction. Therefore, regulators and service providers need to focus on two aspects: (1) campaigns that offer *hands-on experiences* and financial incentives, and (2) improved technical infrastructure to ensure smooth and secure transactions. With this holistic approach, the gap between expectations and reality can be minimized, so that user satisfaction depends not only on information, but on the concrete benefits they feel.

The Influence of User Satisfaction on QRIS Adoption

The results of the analysis showed that user *satisfaction* had a positive and significant effect on the adoption of QRIS, with a path coefficient of 0.462 (T-Statistic 3.037; P-Value 0.003). These findings are in line with Davis' (1989) Technology Acceptance Model (TAM), which asserts that user satisfaction is a key factor in long-term technology use. Studies by Bhattacharyya & Verma (2021) in India and Susanto et al. (2022) in Indonesia confirm that users who are satisfied with aspects such as speed, security, and convenience of QRIS transactions tend to adopt them consistently, even recommending them to others (*word-of-mouth*). This shows that satisfaction not only increases user retention, but also expands adoption through social effects.

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While user satisfaction is a key driver, external factors such as government policies and financial incentives can strengthen or weaken this relationship. Oliveira et al. (2020) in the European context found that the adoption of digital payments remains dependent on regulation and people's digital literacy, even if users feel satisfied. In Indonesia, research by Nugroho & Suryadi (2023) revealed that Bank Indonesia's policies—such as the elimination of transaction fees for MSMEs—increase the impact of satisfaction on QRIS adoption. This means that user satisfaction becomes more effective when supported by an ecosystem that makes it easier to access and provides direct economic benefits.

These findings emphasize the need for QRIS service providers to focus on improving technical aspects such as transaction speed, data security, and system reliability to maintain user satisfaction. Real benefit-based marketing strategies—such as *cashback programs* or education about QRIS efficiency—can strengthen perceptions of satisfaction. On the other hand, regulators need to expand supporting policies, such as incentives for MSMEs and inclusive digital infrastructure, to ensure that user satisfaction is accessible to all groups. With the synergy between service quality and supportive policies, user satisfaction is not only a driver of individual adoption, but also an accelerator of digital transformation at the national level.

The Influence of User Trust on QRIS Adoption

The results of the analysis showed that user *trust* had no significant effect on QRIS adoption, with a path coefficient of 0.178 (T-Statistic 1.779; P-Value 0.076). These findings contradict several previous studies, such as Gefen et al. (2003) and Alalwan et al. (2018), which stated that trust in the security and reliability of systems is a key factor in the adoption of digital financial technology. However, in the context of QRIS in Indonesia, user trust—while important—is not enough to directly drive adoption. This indicates that users may believe QRIS is safe, but the decision to adopt it is more influenced by other factors such as immediate benefits, ease of use, or financial incentives.

The study of Oliveira et al. (2016) and Sharma et al. (2022) explains that trust is only effective if it is supported by perceived *usefulness* and positive user experiences. In Indonesia, research by Nugroho & Suryadi (2023) revealed that the adoption of QRIS is more influenced by educational campaigns, *cashback*, and intuitive interfaces than trust alone. Users tend to prioritize transaction convenience, speed, and economic incentives as the main reasons for adopting QRIS. In other words, trust acts as a supporting factor that needs to be integrated with other elements to create a holistic appeal.

These findings suggest that QRIS adoption strategies should shift from an exclusive focus on trust to a more comprehensive approach. Service providers need to increase education about the benefits of QRIS, provide financial incentives, and ensure a seamless user experience through a user-friendly interface. Additionally, building a *word-of-mouth* recommendation from satisfied users can be more effective than simply relying on the trust of the system. Regulators also need to strengthen supportive policies, such as transparent security standards and inclusive infrastructure, so that trust is not just an abstract concept,

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but reflected in real practice. Thus, trust will serve as a reinforcer, not a primary driver, in the sustainable QRIS adoption ecosystem.

The Influence of User Trust on User Satisfaction

The results of the analysis showed that User Trust had a positive and significant influence on User Satisfaction in the use of QRIS, with a path coefficient of 0.308, T-Statistic of 3.734 (above 1.96), and P-Value of 0.000 (below 0.05). User trust has a positive and significant influence on user satisfaction. The higher the user's trust in the QRIS system, the higher their level of satisfaction with using it.

Users' trust in the security, privacy, and reliability of the QRIS system contributes significantly to their satisfaction. When users are confident that their transactions are secure and personal data is protected, they are more likely to be satisfied with the service. Satisfaction based on trust can increase user loyalty and drive continuous adoption. Satisfied users are likely to continue using QRIS and recommend it to others. If users are confident that QRIS is safe and reliable, they will be more comfortable using it, which ultimately increases their satisfaction.

This is in line with various studies that show that trust in digital payment systems is an important factor in building a positive user experience. However, there is also research that emphasizes that user satisfaction depends not only on trust, but also on expectations, perceived benefits, and the overall user experience. Therefore, in the development and implementation of QRIS, it is important to ensure system security, increase transparency, and pay attention to the user experience so that the level of satisfaction increases. Chiu et al. (2012) in a study on the adoption of mobile payments showed that user trust in digital payment service providers is closely correlated with the level of satisfaction and intention to continue using the service. QRIS, as a digital-based payment system, is also influenced by this trust factor in creating user satisfaction.

However, a study by Xu et al. (2015) in the study of mobile banking adoption in China stated that the factors of utility and perceived benefits have a greater influence on user satisfaction than trust alone. This means that while trust is important, satisfaction depends more on whether the digital payment system provides significant benefits to users.

The Effect of Perceived Ease of Use on QRIS Adoption through User Satisfaction

The results of the data analysis showed that Perceived Ease of Use (PEOU) had a significant indirect effect on QRIS Adoption through User Satisfaction, with a path coefficient of 0.209, t-statistic of 2.344, and p-value of 0.019 (significant at a significance level of 5%). These findings suggest that although perceived *ease of use* does not directly drive QRIS adoption, this factor still plays a role in increasing user satisfaction. In other words, when users feel that QRIS is easy to use, they will be more satisfied, which ultimately increases their likelihood of adopting QRIS. This supports the idea that user satisfaction acts as a mediating variable linking ease of use to the adoption of digital payment technologies

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This study is in line with Davis (1989) in the Technology Acceptance Model (TAM). This model confirms that Perceived Ease of Use (PEOU) increases satisfaction and trust in a technology, which in turn increases the intention to use it. The results of this study are in line with Davis' findings, where ease of use does not always have a direct effect on adoption, but can increase satisfaction, which then encourages users to adopt the technology. Zhou (2013), in a study on mobile banking, this study found that ease of use has a positive effect on user satisfaction, which in turn increases user intention to use mobile banking services. This suggests that users are more likely to embrace digital payment technology if they feel the system is easy to use and suits their needs. Wang et al. (2020) in a study of e-wallet adoption in Southeast Asia, found that PEOU does not directly influence users' decisions to adopt e-wallets, but has an indirect effect through increased satisfaction and positive user experiences.

In the development of TAM 2, they argued that Perceived Ease of Use can directly influence technology adoption without having to be mediated by user satisfaction. This study shows that if users find the technology easy to use, they will immediately adopt it without the need to go through satisfaction as an intermediate variable. Cheng et al. (2006) in an e-learning adoption study, found that ease of use has a direct influence on adoption without the need to mediate from user satisfaction, as users tend to be more pragmatic in choosing easy-to-use technologies without having to consider their level of satisfaction.

The results of this study have implications for managerial and policy, especially in improving QRIS Ease of Use. QRIS developers need to ensure that this payment system is more intuitive, with an interface that is easy to understand by various user segments. As well as simplifying payment procedures, such as reducing the number of steps in a transaction or providing payment automation features, can improve the perception of ease of use. In addition, it is also important to integrate features that can increase satisfaction, in addition to increasing ease of use. Additional features such as clear transaction notifications, loyalty programs, or integration with other financial applications can strengthen user satisfaction. Meanwhile, related to promotional strategies based on user experience, marketing campaigns should emphasize an easy and convenient user experience, for example, by displaying user testimonials or providing live demonstrations of the use of QRIS.

The Influence of Promotion & Education on QRIS Adoption through User Satisfaction

The results of the data analysis showed that Promotion & Education did not have a significant indirect effect on QRIS Adoption through User Satisfaction, with a path coefficient of 0.063, t-statistic of 1.304, and p-value of 0.193 (insignificant at the significance level of 5%). Promotion and education can increase user satisfaction, but they do not significantly drive QRIS adoption. This suggests that other factors may be more decisive in increasing the adoption of QRIS, such as *perceived ease of use*, trust, or *perceived usefulness*. Promotional strategies may need to be directed directly at increasing adoption intent, not just at user satisfaction.

The results of this study are in line with Rogers (2003) in *Diffusion of Innovation Theory*, stating that promotion and education alone are not enough to increase the adoption

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of new technologies. Factors such as *compatibility*, *trialability*, and *observability* have more influence on adoption decisions. Shankar & Datta (2018) in a study on the adoption of digital payment systems in India found that promotions have no direct or indirect impact on adoption, as user decisions are more influenced by social habits and norms. Putri et al. (2021) in a study of mobile banking adoption in Indonesia showed that although education and promotion improve user understanding, they do not necessarily significantly increase the use of digital services.

However, the results of this study are different from those of Mahfuz et al. (2016) found that interactive and user experience-based promotional strategies have a more significant impact on the adoption of digital financial services than informative promotions alone. Liébana-Cabanillas et al. (2014) in their research on mobile payments found that comprehensive educational campaigns can reduce user uncertainty and increase adoption intentions, especially in the emerging digital ecosystem. Fauzi & Sheng (2022) in research in Southeast Asia showed that promotions that involve incentives, such as discounts or cashback, are more effective in increasing the adoption of digital payment services than education-based promotions alone.

Promotions that focus solely on education are not enough to increase the adoption of QRIS. Therefore, promotional strategies need to include direct incentives such as cashback, discounts, or loyalty programs to encourage adoption. Factors such as perceived ease of use, perceived usefulness, and trust in the QRIS system need to be improved through more comprehensive policies, for example, by increasing transaction security and increasing the number of merchants who accept QRIS. Information-only promotions may not be effective enough. Experience-based approaches, such as *QRIS demo days*, *gamification*, and cooperation with e-commerce platforms, can further increase user engagement.

The Influence of User Trust on QRIS Adoption through User Satisfaction

The results of data processing showed that User Trust had a significant indirect influence on QRIS Adoption through User Satisfaction, with a path coefficient of 0.142, a t-statistic value of 2.043, and a p-value of 0.042 (meaning significant at a significance level of 5%). User Trust has no direct influence on QRIS Adoption, but has an indirect effect through User Satisfaction. This suggests that users' trust in QRIS contributes to increased user satisfaction, which ultimately influences their decision to adopt QRIS. These findings indicate that user satisfaction plays a role as a mediating variable that bridges the relationship between trust and QRIS adoption.

This study is in line with Gefen et al. (2003) in the context of e-commerce, finding that customer trust does not directly influence the decision to make online transactions, but trust increases customer satisfaction, which ultimately increases the intention of reusing online services. Zhou (2013) in his research on the adoption of mobile payments showed that trust plays an important role in increasing user satisfaction, which in turn contributes to the adoption of digital payment technology. Cheng et al. (2022) found that in the context of digital banking, trust in the digital financial system has more effect on user satisfaction than direct adoption, which is in line with the findings in this study regarding QRIS.

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However, the results of this study are different from Kim et al. (2009), who found that trust can directly influence the adoption of digital payment systems, without the need to be mediated by user satisfaction. This suggests that in some contexts, trust can have a direct effect on the adoption of financial technology. Venkatesh et al. (2012) in the *Unified Theory of Acceptance and Use of Technology (UTAUT)* model show that trust can act as a direct determinant factor for technology adoption intentions, especially in low-risk environments.

Although trust has no direct effect on the adoption of QRIS, its role in increasing satisfaction is crucial. Therefore, QRIS service providers need to strengthen the security and transparency aspects of the system. Industry players and regulators need to focus on improving the user experience, such as providing easy, fast, and secure services so that user trust can translate into satisfaction, ultimately driving adoption. Educational campaigns to increase public understanding of QRIS can help build trust and satisfaction, ultimately increasing adoption rates.

CLOSING

Conclusion

Based on the analysis of factors influencing QRIS adoption, this study reveals that user *satisfaction* and promotion-education have a significant influence on QRIS adoption, while perceived *ease of use* only affects satisfaction, not direct adoption. On the other hand, user *trust* is not statistically significant, although it is a key factor in classical theories such as TAM. These findings show that the adoption of QRIS does not depend only on a single technical or psychological aspect, but on a combination of factors such as perceived usefulness, financial incentives, and supportive policies. Theories such as Diffusion of Innovation (DOI) and Expectation-Confirmation Theory (ECT) are relevant in explaining these dynamics, especially related to the role of education, user experience, and the gap between expectations and reality. Indonesia's local context—such as the preference of MSMEs for economic practicality and Bank Indonesia's policies—also contributes to a unique adoption pattern.

Suggestions

The practical implications of this study emphasize the need for an integrated strategy that combines benefit-based promotions, economic incentives (such as *cashback*), and improved quality of service (speed, security) to accelerate the adoption of QRIS. Regulators and service providers need to focus on education that targets MSME digital literacy and strengthening infrastructure to reduce technical failures. For further research, it is recommended to investigate cultural factors such as trust in local authorities or cash transaction preferences that may hinder the adoption of QRIS in rural areas. It is also important to explore the mediating role of psychological factors (e.g., habits or perceived risks) in the relationship between trust and adoption. Further studies can also be conducted in longitudinal studies to monitor changes in adoption patterns as the QRIS ecosystem matures and government policies. As well as using a qualitative approach (in-depth interviews) to understand the perception of conservative users or the older generation who

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have not fully switched to QRIS. Thus, future research can provide more holistic recommendations to accelerate digital transformation in Indonesia's payments sector.

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