

Research paper

Emotional and Cognitive Drivers of QRIS Usage: Exploring the Mediating Role of Perceived Trust in Digital Payment Adoption

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ABSTRACT

This study aims to explore the psychological factors and user perceptions that influence the adoption of the Quick Response Code Indonesian Standard (QRIS) as a digital payment method in Indonesia. Focusing on emotional factors, such as hedonic motivation, and cognitive factors, such as perceived ease of use and perceived risk, this research also examines the mediating role of perceived trust in the relationships between these variables. The results show that hedonic motivation and perceived ease of use significantly increase the intention to use QRIS, while perceived risk reduces users' perceived trust in the system. Furthermore, perceived trust has been shown to serve as a key mediator linking psychological factors to the intention to use QRIS. These findings provide important insights for technology developers, marketers, and regulators in designing effective strategies to boost QRIS adoption, emphasizing enjoyable user experiences, ease of use, and enhanced system security. The study also underscores the importance of comprehensive education and socialization efforts to lower perceived risk and build users' trust, thereby accelerating economic digitalization in Indonesia.

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1. INTRODUCTION

The adoption of digital payment technology is a global phenomenon reflecting changes in consumer behavior alongside the rapid development of financial technology. Digital payment systems are no longer perceived merely as efficient transactional tools, but as the result of complex interactions between users' cognitive, emotional, and psychological factors. In this context, the QRIS represents a unique innovation in digital payments, thanks to its nationwide standardization and support from institutional regulations, thereby positioning user trust as a crucial factor in its adoption. In countries with developing digital infrastructure, such as Indonesia, digital payments have become an integral part of daily economic activities (Handarkho & Harjoseputro, 2020). Previous studies have emphasized that ease of use, system security, and social and hedonic motivations play important roles in shaping trust and the adoption of digital payment technologies (Baabdullah, 2018). Additionally, the Push-Pull-Mooring Theory is relevant in explaining users' shift from conventional payment methods to mobile payments (Handarkho & Harjoseputro, 2020). Recent literature also shows that trust can function as both a mediator and a moderator in the relationship between ease of use and loyalty or intention to reuse digital technologies (Rawool et al., 2024), while hedonic and utilitarian motivations, perceived risk, and perceived benefits influence the intention to use various financial technology services (Dinh & Park, 2024; Raj et al., 2025).

Although research on digital payment adoption has been rapidly developing, the existing literature still reveals significant conceptual gaps, especially in integrating emotional factors (such as user feelings and attitudes), cognitive factors (such as beliefs and perceptions), and trust (the expectation that parties will act reliably) within a comprehensive analytical framework. Raj et al. (2025) highlight the roles of perceived benefit (the user's assessment of positive outcomes) and perceived risk (the user's assessment of potential losses) in adopting Buy Now Pay Later (BNPL) services, but this is limited to the context of digital credit and has not included trust as a mediating mechanism. Dinh and Park (2024) focus on hedonic (pleasure and enjoyment) and utilitarian (practical usefulness and efficiency) motivations for the use of AI-based chatbots. However, they do not explore the broader role of trust in technology adoption. Rawool et al. (2024) show that trust moderates the relationship between

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perceived usefulness, ease of use, and brand loyalty in the context of voice-based AI assistants, but this remains limited to online shopping environments and does not simultaneously integrate emotional and cognitive factors. Handarkho and Harjoseputro (2020) identify consumer innovativeness (willingness to try new technologies) as a determinant of mobile payment adoption, but do not test trust as a mediating variable, whereas Baabdullah (2018) includes trust in the UTAUT2 (Unified Theory of Acceptance and Use of Technology 2) model in the context of mobile social network games (MSNGs), but does not consider perceived risk. Thus, there is still a lack of research that simultaneously integrates emotional and cognitive drivers and perceived trust as a mediating mechanism in the context of nationally standardized digital payments, such as QRIS.

This gap is even more relevant in the Indonesian context, given the rapid growth of QRIS following the COVID-19 pandemic, which is still accompanied by challenges related to users' perceptions of security, risk, and perceived benefits (Handarkho & Harjoseputro, 2020). In line with Raj et al. (2025), perceptions of risk and benefits play important roles in shaping intentions to use financial technology, reaffirming trust as a mechanism for reducing uncertainty. Baabdullah (2018) demonstrates that trust mediates the influence of emotional factors on the adoption of digital technology, while the findings of Rawool et al. (2024) as well as Dinh and Park (2024) reinforce the relevance of hedonic and utilitarian motivations and the role of trust in the adoption of AI-based technologies and digital services. However, these studies have not explicitly described how trust selectively serves as a mediator among emotional, cognitive, and usage-intention factors in institutional digital payment systems such as QRIS. Based on these gaps, this study aims to analyze the roles of emotional drivers (hedonic motivation) and cognitive drivers (perceived ease of use and perceived risk) in shaping the intention to use QRIS, with perceived trust as the main mediating variable. Unlike previous studies, this research explores the selective mediation mechanism of trust in the context of national digital payments. Theoretically, this study enriches the development of TAM and UTAUT2 by integrating trust as a contextual mediator. In practice, the findings are expected to have strategic implications for banks, payment service providers, and the government in strengthening QRIS adoption and accelerating digital transformation and financial inclusion in Indonesia.

2. THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1 Behavioral Technology Adoption as the Theoretical Foundation

This research uses the behavioral technology adoption paradigm, which views digital technology adoption as the result of interactions among cognitive evaluation, emotional experience, and psychological mechanisms that reduce uncertainty. This view holds that people adopt technology for rational, functional, and emotional reasons, including perceptions of risk and trust. To explain these mechanisms, this study combines three theoretical frameworks from technology adoption research: the Technology Acceptance Model (TAM), UTAUT2, and Trust Theory. These frameworks help explain how Indonesians use the QRIS as a digital payment system (Venkatesh et al., 2003; Venkatesh et al., 2012). This integration matters because trust in the system strongly influences users' adoption of digital payments, especially in institutional systems like QRIS (Baabdullah, 2018; Gefen et al., 2003).

2.2 Cognitive Drivers: Perceived Ease of Use and Utilitarian Evaluation

Based on the Technology Acceptance Model (TAM), the intention to use technology is primarily determined by the user's cognitive evaluation, particularly Perceived Ease of Use (PEOU), which reflects the extent to which a system is considered easy to understand and use (Davis, 1989; Venkatesh et al., 2003). In the context of digital payments, which are already relatively familiar and integrated into daily activities, ease of use serves as a utilitarian factor that directly encourages use by increasing transaction efficiency and reducing users' cognitive burden (Liu et al., 2019; Featherman & Hajli, 2016). Therefore, this study positions Perceived Ease of Use as a direct determinant of Intention to Use QRIS. This approach aligns with findings that, in well-established digital systems, the effect of PEOU tends to be instrumental and is not always mediated by trust development (Mendoza-Tello et al., 2019; Chin et al., 2022).

2.3 Emotional Drivers: Hedonic Motivation in Digital Payment Adoption

UTAUT2 expands technology adoption theory by emphasizing affective factors. One such factor is Hedonic Motivation, which drives consumer technology use (Venkatesh et al., 2012; Baabdullah, 2018). Hedonic Motivation reflects the pleasure, emotional satisfaction, and positive experiences users have when using digital technology (Dinh & Park, 2024; Wu & Liu, 2023). In QRIS, a fast, convenient, and enjoyable payment experience is expected to increase the intention to use. It also fosters a deeper psychological evaluation, as reflected in Perceived Trust toward the payment system (Gupta et al., 2019; Lavuri, 2023). Thus, Hedonic Motivation has two influence paths: a direct path toward intention to use, and an indirect path through user trust (Chang et al., 2016; Gefen et al., 2003).

2.4 Perceived Trust as a Selective Mediating Mechanism

The role of Perceived Trust in this research framework is explained through Trust Theory, which emphasizes that trust is the main psychological mechanism in reducing uncertainty and complexity in digital transactions (Gefen et al., 2003; Ooi & Tan, 2016). In digital payment systems such as QRIS, trust reflects users' confidence in the system's security, reliability, and integrity in facilitating financial transactions (Kalinic et al., 2019; Chin et al., 2022). Unlike approaches that position trust as a universal mediator, this study conceptually posits Perceived Trust as a selective mediator, a mechanism that is more effective at channeling the influence of emotional factors than utilitarian factors that are functional in nature (Baabdullah, 2018; Lavuri, 2023). This perspective enables a more nuanced understanding of the role of trust in the adoption of digital payment technology.

2.5 Perceived Risk and Trust Formation in Institutional Digital Payment Systems

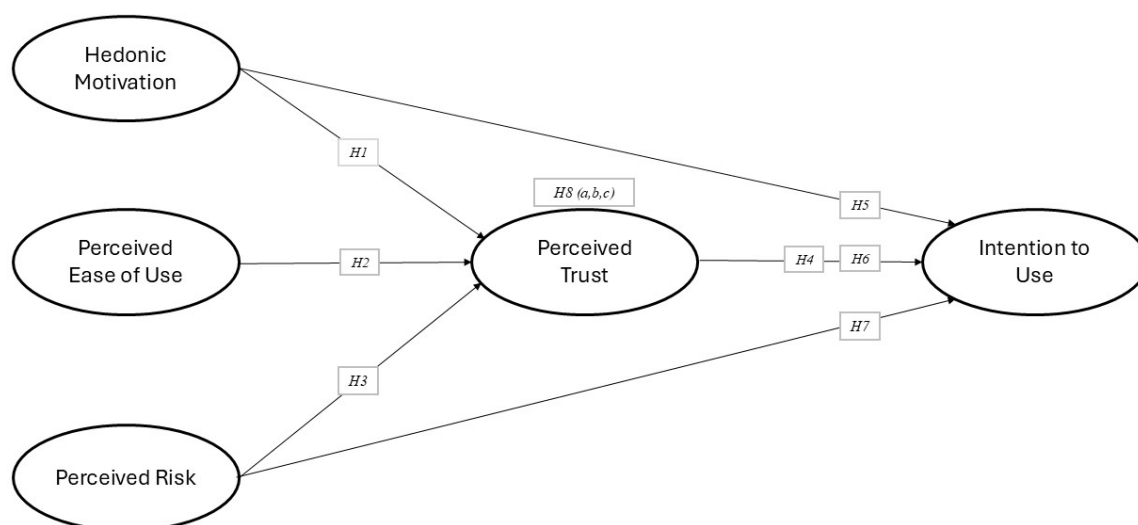
In addition to emotional and utilitarian factors, this study incorporates Perceived Risk as a cognitive-negative factor reflecting the potential for financial loss, privacy risks, or security threats that users perceive when using QRIS (Khalilzadeh et al., 2017; Aboobucker & Bao, 2018). Based on Trust Theory, a high perceived risk is expected to decrease users' trust in digital payment systems, although it does not always directly affect users' intention to use (Gefen et al., 2003; Al-Qudah et al., 2024). Therefore, Perceived Risk is assumed to influence Intention to Use indirectly through Perceived Trust, with the strength of this mediation being contextual and influenced by the level of technological maturity as well as the institutional support inherent in national digital payment systems such as QRIS (Kalinic et al., 2020; Singh & Sinha, 2020).

2.6 Conceptual Synthesis and Theoretical Contribution

Based on the proposed conceptual model, this study posits that QRIS adoption results from a non-linear mechanism involving direct and indirect pathways among key psychological constructs (Chang et al., 2016; Baabdullah, 2018). Hedonic Motivation operates through a dual role, influencing Intention to Use directly and indirectly via Perceived Trust. This mechanism reflects an affective process, in which pleasurable usage experiences not only drive the intention to use but also strengthen users' trust in the institution-based digital payment system (Gefen et al., 2003; Lavuri, 2023). Conversely, Perceived Ease of Use is positioned as a utilitarian factor that primarily affects Intention to Use through a direct pathway. In the context of QRIS, which is already relatively familiar and integrated into daily transactional activities, ease of use serves as an instrumental mechanism that enhances efficiency and convenience, without necessarily being mediated by trust (Liu et al., 2019; Mendoza-Tello et al., 2019). This suggests that the influence of utilitarian factors tends to be straightforward and functional.

Meanwhile, Perceived Risk acts as a cognitive-negative factor that predominantly influences Perceived Trust. Risk perceptions related to security, privacy, and potential financial loss lower users' trust in the digital payment system, although these perceptions do not always directly affect Intention to Use (Khalilzadeh et al., 2017; Gefen et al., 2003). Within this framework, trust functions as a psychological buffer that filters the impact of risk on usage intention, particularly in national payment systems supported by institutional legitimacy (Baabdullah, 2018; Lavuri, 2023). Overall, this conceptual synthesis reveals that Perceived Trust does not act as a universal mediator but rather as a selective mediator, more effective at channeling the influence of emotional and risk factors than that of utilitarian factors. By distinguishing among affective, functional, and evaluative pathways, this study enriches the development of TAM and UTAUT2 by integrating Trust Theory in the context of institution-based digital payments. The main theoretical contribution of this study lies in modeling trust as a contingent mechanism that explains how and when emotional, cognitive, and risk factors are translated into intention to use QRIS in Indonesia (Gefen et al., 2003; Baabdullah, 2018; Lavuri, 2023).

Figure 1: Conceptual Framework



2.2 Research Hypothesis

Various empirical studies provide strong support for hypothesis H1, which posits that hedonic motivation positively affects perceived trust. Conceptually, hedonic motivation reflects the pursuit of pleasure and emotional satisfaction and has been shown to play an important role in shaping perceptions of service providers' reliability and integrity (Baabdullah, 2018; Chang et al., 2016). Findings across different contexts demonstrate the consistency of this relationship, whether in online shopping and e-tail (Lavuri, 2023; Odusanya et al., 2022), green hospitality (Gupta et al., 2019), online banking (Garepasha et al., 2020), or mobile commerce in both developed and developing countries (Thongpapanl et al., 2018). Recent evidence also underscores the relevance of hedonic motivation in the context of advanced financial technologies, such as financial robo-advisors (Nourallah, 2023), as well as in the tourism and transportation sectors (Della et al., 2023). The consistency of findings across sectors and countries shows that enjoyable experiences universally enhance user trust. Thus, the existing literature provides a strong empirical basis for the hypothesis that hedonic motivation is an important determinant of perceived trust.

Hypothesis 1: Hedonic Motivation Influences Perceived Trust

Various empirical studies consistently support the hypothesis that perceived ease of use positively affects perceived trust in the adoption of digital technology. Cross-context findings show that the ease of use of an application or system increases users' trust in the platform. In online food delivery services, ease of use has been shown to strengthen users' trust in service providers in various countries (Chiu et al., 2024). A similar pattern was observed in mobile shopping during the COVID-19 pandemic in India, where an easy-to-use interface increased consumer trust, especially among younger consumers (Lavuri et al., 2023). In developed countries, research on e-commerce shows that intuitive platform design significantly builds trust among both users and business actors (Mendoza-Tello et al., 2019). Meanwhile, evidence from developing countries indicates that the ease of use of green technology shopping apps also increases consumer trust (Ahmed et al., 2024). The consistency of these findings across sectors and regions affirms that perceived ease of use is an important determinant of perceived trust, making user-friendly system design a strategic element in the development of digital technology and business.

Hypothesis 2: Perceived Ease of Use affects Perceived Trust

Various empirical studies have consistently supported the relationship between perceived risk and perceived trust in the adoption of financial technology. The literature indicates that reducing perceived risk is crucial for increasing user trust in digital services, both in developing and developed countries. In the context of internet banking and e-wallets in developing countries, findings show that lower perceived risk significantly enhances users' trust in the security and reliability of digital payment systems (Aboobucker & Bao, 2018; Gómez-Hurtado et al., 2024). A similar pattern is observed in developed countries, where perceived risk has been shown to affect trust in NFC-based payment technologies and peer-to-peer mobile systems, reflecting users' sensitivity to potential risks in digital transactions (Khalilzadeh et al., 2017; Kalinic et al., 2020). The consistency of findings across technological contexts from internet banking and e-wallets to NFC and P2P payments demonstrates that perceived risk is a fundamental determinant of perceived trust. Thus, risk management and mitigation become

essential prerequisites for building user trust in modern financial technology across diverse geographic and socio-economic settings.

Hypothesis 3: Perceived Risk affects Perceived Trust

Various empirical studies provide strong support for the hypothesis that perceived trust positively affects the intention to use digital payment technologies. Consistently, trust has proven to be a primary determinant of usage intention across contexts such as e-wallets, mobile banking, QR-based payments, and peer-to-peer systems (Awasthi & Sangle, 2013; Ooi & Tan, 2016; Liébana-Cabanillas et al., 2020; Türker et al., 2022). Evidence from developing countries shows that the trust of users and merchants significantly increases the intention to adopt digital payment services (Singh & Sinha, 2020; Tripathi et al., 2022; Che et al., 2024), while similar findings have also been reported in developed countries such as Spain and the United States, confirming the universal role of trust (Kalinic et al., 2019; Chin et al., 2022). Although there are limited exceptions, such as the findings of Nazri et al. (2024) in Malaysia, the majority of studies show a consistent positive relationship between perceived trust and intention to use. Both theoretically and practically, these findings underscore the importance of building user trust as a key strategy in driving the adoption of digital payment technologies across contexts and cultures.

Hypothesis 4: Perceived Trust Affects Intention to Use

The literature shows variation in empirical findings on the influence of hedonic motivation on the intention to use digital technology, with adoption context heavily influencing these findings. In developing countries, hedonic motivation tends to play a significant role in shaping usage intentions, particularly during rapid behavioral change or the adoption of new technologies. Studies in India and cross-country research show that pleasure and emotional satisfaction are the main drivers in the adoption of digital payment systems and mobile payment services (Sivathanu, 2019; Wu & Liu, 2023). Conversely, in developed countries, the findings are not always consistent. Research in the UK reveals that hedonic motivation does not significantly affect the intention to use NFC-based mobile payments, especially among non-users (Slade et al., 2015). However, certain temporal contexts can alter this pattern. During the COVID-19 pandemic in the United States, hedonic motivation again emerged as an important determinant of increased intention to use technology, in line with the growing need for enjoyable digital experiences (Dinh & Park, 2024). Overall, these findings affirm that hedonic motivation is contextual, shaped by geographical, cultural, and situational factors, and is more dominant in conditions that drive rapid technology adoption.

Hypothesis 5: Hedonic Motivation affects Intention to Use

Empirical literature generally supports the relationship between Perceived Ease of Use (PEOU) and Intention to Use (ITU), though variations across contexts and countries are observed. In developing countries, PEOU consistently plays a significant role in driving the intention to use various digital technologies, including e-wallets, mobile payments, QR payments, and blockchain. Findings from Indonesia, China, Turkey, the Philippines, and India confirm that ease of use is a key factor in enhancing ITU, especially for technologies still in their early adoption stages (Che et al., 2024; Liu et al., 2019; Türker et al., 2022; Rawool et al., 2024; Belmonte et al., 2024; Alnıpak & Toraman, 2024; Singh et al., 2020). Cross-country studies also indicate a similar pattern in digital payments (Neves et al., 2024). Conversely, in some developed countries, the influence of PEOU tends to weaken or become insignificant, as in Austria and France, because other factors, such as trust, security, and perceived benefits, become more dominant (Schmidhuber et al., 2020; Koenig-Lewis et al., 2015). Nevertheless, empirical evidence in the United States shows that PEOU remains relevant in certain contexts (Featherman & Hajli, 2016). Overall, these findings affirm that PEOU's influence on ITU is contextual and stronger in developing countries than in developed ones.

Hypothesis 6: Perceived Ease of Use affects Intention to Use

The literature presents a variety of empirical findings on the influence of perceived risk on the intention to use digital payment technology, which is highly context- and user-characteristic-dependent. In developing countries, research results tend to be inconsistent. Some studies find that perceived risk significantly affects usage intention, indicating user sensitivity to uncertainty in adopting financial technology (Liu et al., 2019; Singh et al., 2020; Raj et al., 2024). However, other studies indicate an insignificant effect, especially in contexts where usage is already familiar or adoption is relatively mature (Handarkho & Harjoseputro, 2020; Al-Saedi et al., 2020; Widyanto et al., 2022). In contrast, in developed countries, findings are more consistent in showing that perceived risk is an important determinant of intention to use, reflecting high technological literacy and users' critical attitudes toward risk (Koenig-Lewis et al., 2015; de et al., 2016; Schmidhuber et al., 2020; Belanche et al., 2022). Moreover, external situations such as the COVID-19 pandemic have been shown to moderate the role of risk by shifting consumer priorities (Al-Qudah et al., 2024). Overall, these findings affirm that the influence of perceived risk is contextual and warrants further analysis across cultures and adoption contexts.

Hypothesis 7: Perceived Risk affects Intention to Use

The literature shows that hedonic motivation not only directly influences technology usage intentions but also influences them through the formation of perceived trust. Enjoyable, engaging, and emotionally satisfying experiences have been shown to increase perceptions of the reliability and integrity of digital service providers, ultimately strengthening user trust (Baabdullah, 2018; Chang et al., 2016). In various digital contexts, from mobile commerce to technology-based financial services, user enjoyment serves as an affective signal that reduces uncertainty and increases confidence in the system (Thongpapanl et al., 2018; Nourallah, 2023). The trust formed from these hedonic experiences subsequently becomes a key determinant of intention to use, particularly for digital payment technologies that involve non-physical risks and financial transactions (Kalinic et al., 2019). Thus, perceived trust serves as a psychological mechanism that bridges the influence of hedonic motivation on intention to use, making this relationship affective, cognitive, and evaluative.

Hypothesis 8a: Perceived Trust mediates the influence of Hedonic Motivation on Intention to Use.

Perceived ease of use conceptually contributes to increasing users' trust in digital technology by fostering perceptions of control, clarity in the system, and minimal operational barriers. Systems that are easy to use tend to be perceived as more reliable and secure, thereby enhancing users' perceived trust in the platform (Mendoza-Tello et al., 2019; Chiu et al., 2024). In the context of digital payments, ease of navigation and understanding of transaction processes play a crucial role in reducing user anxiety, thereby strengthening trust in the system and service providers (Lavuri et al., 2023). The trust that is built through ease of use then becomes a key determinant of intention to use, as demonstrated in various cross-country and digital-sector studies (Liébana-Cabanillas et al., 2020). Therefore, perceived trust serves as a mediator, explaining how perceived ease of use translates into a stronger intention to use, particularly in digital payment technologies that demand high reliability.

Hypothesis 8b: Perceived Trust mediates the effect of Perceived Ease of Use on Intention to Use.

In the adoption of digital payment technology, perceived risk is a crucial factor influencing users' evaluations of the system, particularly regarding security, privacy, and potential financial loss. The literature shows that perceived risk directly affects trust formation, with lower risk increasing users' trust in digital technology (Aboobucker & Bao, 2018; Khalilzadeh et al., 2017). This trust then acts as a primary psychological mechanism that determines whether users are willing to continue using the technology (Kalinic et al., 2020). In the context of digital payments, although the influence of perceived risk on intention to use is contextual, trust has been shown to neutralize its negative impact and turn it into a positive adoption intention (Liébana-Cabanillas et al., 2020). Thus, perceived trust mediates the relationship between perceived risk and intention to use, explaining how risk evaluation is translated into the decision to use digital payment technology.

Hypothesis 8c: Perceived Trust mediates the influence of Perceived Risk on Intention to Use.

3. RESEARCH METHODS

3.1 Study Design

This study employs a quantitative explanatory research approach, using a survey, to analyze the relationship between psychological factors and the adoption of the Indonesian Quick Response Code Standard (QRIS). The main variables examined include hedonic motivation, perceived ease of use, perceived risk, perceived trust, and intention to use, as outlined in the technology adoption framework (Venkatesh et al., 2003; Hair et al., 2017). Data were collected via an online questionnaire administered to QRIS users in Indonesia, using random sampling stratified by demographic characteristics and frequency of use (Chin, 2008). The validity and reliability of the instruments were tested using Cronbach's alpha and Average Variance Extracted (AVE) (Hair et al., 2019). Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) to test structural relationships and the mediating role of perceived trust, and to assess discriminant validity using the Heterotrait-Monotrait Ratio (HTMT) (Henseler et al., 2015). In addition, common method bias was controlled using Full Collinearity Variance Inflation Factors (FCVIFs) (Kock, 2015), while PLS-SEM was chosen for its capability to handle complex models and variance-based analysis (Sarstedt et al., 2017).

3.2 Definition Operational

This research instrument uses a structured questionnaire to measure the main constructs influencing QRIS adoption, with indicators adapted from previous studies validated in the context of technology adoption and digital payments. Hedonic Motivation (HedMo) reflects users' positive affective experiences with QRIS and is measured using three indicators (HedMo1-HedMo3) that capture aspects of enjoyment and pleasure, as per Norman et al. (2022). Perceived Ease of Use (PerEa) represents perceptions of convenience and minimal effort in using QRIS as a

utilitarian factor in the Technology Acceptance Model. It is measured with four indicators (PerEa1-PerEa4) adapted from D. and Z. (2023). Perceived Risk (PerRi) describes users' perceptions of potential financial and information security risks in using QRIS, measured through four indicators (PerRi1-PerRi4) based on D. and Z. (2023). Perceived Trust (PerTr) is defined as users' confidence in the security, reliability, and integrity of QRIS as a standardized digital payment system, positioned as a mediating variable, and measured using five indicators (PerTr1-PerTr5) adapted from Anurag and Shibashish (2024). Intention to Use (Intto) represents the user's behavioral intention and readiness to use QRIS in the future and is measured using four indicators (Intto1-Intto4), following Irma and Anetta (2022). All indicators are measured using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). Reliability and construct validity tests are conducted during data analysis using the PLS-SEM approach, with reference to the criteria of Cronbach's alpha, composite reliability, and average variance extracted (Nunnally, 1978; Hair et al., 2010).

3.3 Data Analysis Technique

This study employs Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine the relationships among variables in the QRIS adoption model. This method was chosen for its ability to handle complex models and its flexibility with non-normally distributed data (Hair et al., 2017). PLS-SEM is used to model the influence of psychological factors such as hedonic motivation, perceived ease of use, and perceived risk on intention to use, with perceived trust serving as a mediating variable (Henseler et al., 2009). Measurement model evaluation begins with reliability testing using Cronbach's alpha with a threshold of ≥ 0.70 (Hair et al., 2010). Convergent validity is assessed using outer loadings and Average Variance Extracted (AVE), with criteria of >0.70 and >0.50 , respectively (Hair et al., 2021). Discriminant validity is tested using the Heterotrait-Monotrait Ratio (HTMT) (Henseler et al., 2015). Furthermore, the quality of the structural model is evaluated using the R-square value to assess predictive strength (Chin, 2008). Potential common method bias is controlled through Full Collinearity Variance Inflation Factors (FCVIFs) (Kock, 2015), thus ensuring the model has adequate validity, reliability, and predictive power (Hair et al., 2017; Henseler et al., 2009).

3.4 Hypothesis Testing

Hypothesis testing in this study was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM), which was chosen for its ability to handle complex data without strict distributional assumptions and for its suitability for both predictive and exploratory research (Hair et al., 2021; Henseler et al., 2009). The analytical procedure began with an evaluation of the outer model to ensure construct validity and reliability. Convergent validity was tested using outer loading values ≥ 0.7 and Average Variance Extracted (AVE) > 0.5 (Hair et al., 2019; Fornell & Larcker, 1981), while construct reliability was assessed using Cronbach's alpha with a threshold of ≥ 0.7 (Nunnally & Bernstein, 1994). Next, the inner model was evaluated using the R-square statistic to assess the explanatory power of the predictor variables on the dependent variable, categorized as weak, moderate, or substantial (Chin, 2008). The significance of the relationships between variables was tested using bootstrapping, with a T-statistic > 1.96 at the 95% confidence level (Hair et al., 2021). In addition, common method bias was controlled using Full Collinearity Variance Inflation Factors (FCVIFs), with values < 3.3 indicating the absence of common method bias (Kock, 2015). This approach ensures that the results of hypothesis testing are valid, reliable, and accurate in explaining QRIS adoption.

4. RESULT

4.1 Profile Respondent

The research was conducted using an online survey distributed to the target respondents. Data screening was conducted to identify problematic respondents. According to Hair (2019), respondent data detection is needed to avoid response bias, such as careless filling in of answers or responses following a specific pattern. Of the respondents, 355 completed the questionnaire in its entirety and met the criteria. The respondents' profile data can be seen in the following table:

Table 1. Respondent Profile (N = 355)

Profile	Classification	Frequency (n)	Percentage (%)
Age	18-24 years	89	25%
	25-34 years	124	35%
	35-44 years	71	20%
	≥ 45 years	71	20%
Gender	Male	195	55%
	Female	160	45%

Table 1 presents the respondents' profile. Based on data from 355 respondents, the demographic characteristics reveal the diversity of QRIS users. Most respondents are in the 25-34 age group (35%), who generally have high digital literacy and are actively involved in technology-based economic activities. The 18-24 age group accounts for 25% of respondents, indicating that younger people also have a significant level of QRIS adoption. Meanwhile, respondents aged 35-44 and ≥ 45 years each contribute 20%, indicating that QRIS is not only used by younger age groups but has also been accepted by older age groups. In terms of gender, the distribution of respondents is relatively balanced, with 55% male and 45% female. These findings show that QRIS adoption is inclusive and not dominated by any gender group. Overall, the respondent profile confirms that QRIS adoption is driven by productive age groups with good digital literacy and provides important empirical context for understanding the influence of emotional, cognitive, risk, and trust factors on the intention to use QRIS.

4.2 Reliability Result

Reliability testing in this study was carried out using the Cronbach's alpha method to ensure the internal consistency of each variable examined. The recommended Cronbach's alpha range is 0.80 to 0.90, with a minimum acceptable value of 0.70 (or 0.60 in exploratory research) (Trizano-Hermosilla & Alvarado, 2016). The maximum recommended value is 0.95 to avoid indicator redundancy, which could compromise content validity (Diamantopoulos et al., 2012). The test results in Table 2, show that all variables in this study have Cronbach's alpha values categorized as "very good." The Hedonic Motivation variable scored 0.8595, Intention to Use was 0.8646, Perceived Ease of Use was 0.8161, Perceived Risk was 0.7474, and Perceived Trust was 0.8543. These values indicate that each variable has high internal consistency and can be reliably used for further analysis. This reliability also demonstrates that the indicators used in this study accurately reflect the constructs being measured without excessive redundancy (Nunnally & Bernstein, 1994). Moreover, rigorous methodology in this reliability testing ensures that the research findings are statistically reliable and have strong validity (Hair et al., 2010). Therefore, this reliability testing provides a solid foundation for further exploration of psychological factors and user perceptions in the adoption of QRIS digital payments. The reliability test results can be seen in the following table:

Table 2. Internal Consistency Reliability Test

Variable	Cronbach Alpha	Description
Hedonic Motivation	0.8595	Very Good
Intention to Use	0.8646	Very Good
Perceived Ease of Use	0.8161	Very Good
Perceived Risk	0.7474	Very Good
Perceived Trust	0.8543	Very Good

4.3 Convergent Validity Result

Convergent validity testing in this study was conducted to ensure that the indicators used to measure the research variables truly represent the constructs being assessed. According to Hair et al. (2021), convergent validity can be evaluated through two main criteria: indicator reliability (outer loading) and average variance extracted (AVE). Outer loading measures the extent to which each indicator correlates with its latent variable. In general, indicators with outer loading scores above 0.7 are considered very good at representing the measured variable (Hair et al., 2021). In this study, all indicators showed outer loadings above 0.7, except for the PerTr2 indicator on the Perceived Trust variable, which had a loading of 0.6778. Nevertheless, Hair et al. (2019) stated that indicators with scores between 0.4 and 0.7 can be retained as long as they do not reduce the composite reliability. In this context, the PerTr2 indicator was retained because it continued to contribute to the construct's overall reliability. Additionally, the AVE values obtained in this study also met the established criteria. According to Hair et al. (2021), an AVE value above 0.5 indicates that the latent variable explains more than 50% of the variance in its indicators, demonstrating strong convergent validity. The test results in Table 3 showed that all variables in this study met this criterion, including Hedonic Motivation, Perceived Ease of Use, Perceived Risk, Perceived Trust, and Intention to Use. This indicates that these constructs have good convergent validity and can be used in further structural analyses. Thus, this convergent validity assessment provides a strong foundation for ensuring that the research instrument accurately and consistently measures the intended variables (Hair et al., 2021; Hair et al., 2019). The results of the Convergent Validity test can be seen in the following table:

Table 3. Convergent Validity Testing

Variable	Indicator	Factor Loading	Composite Reliability	AVE
Hedonic Motivation	HedMo1	0.8218	0.9150	0.7826
	HedMo2	0.9073		
	HedMo3	0.9215		
Perceived Ease of Use	PerEa1	0.8013	0.8787	0.6446
	PerEa2	0.7689		
	PerEa3	0.7964		
	PerEa4	0.8432		
Perceived Risk	PerRi1	0.7443	0.8561	0.6658
	PerRi2	0.8853		
	PerRi3	0.8123		
Perceived Trust	PerTr1	0.8049	0.8956	0.6332
	PerTr2	0.6778		
	PerTr3	0.7844		
	PerTr4	0.8364		
	PerTr5	0.8625		
Intention to Use	Intto1	0.8475	0.9075	0.7103
	Intto2	0.8468		
	Intto3	0.8484		
	Intto4	0.8284		

Note: The items used for this study are available in the appendix.

4.4 Discriminant Validity Result

Table 4 displays the validity test. Validity testing aims to ensure that the instrument used can accurately and precisely measure the intended construct. One method used is discriminant validity testing, which assesses the extent to which constructs are empirically distinct. According to the Fornell-Larcker criterion (Fornell & Larcker, 1981), the square root of the Average Variance Extracted (AVE) for each construct should be higher than the highest correlation of that construct with any other construct in the model. However, this method is no longer considered adequate because it performs poorly at detecting violations of discriminant validity (Henseler et al., 2015; Radomir & Moisesescu, 2019). Researchers have since adopted more relevant methods, such as the Heterotrait-Monotrait Ratio (HTMT), which has been proven to be more accurate in assessing discriminant validity (Henseler et al., 2015; Ramayah et al., 2018). In addition, indicators with outer loading scores below 0.4 should be removed, as they are deemed insufficient to adequately represent the construct (Hair et al., 2017; Sarstedt et al., 2017). Discriminant validity testing also involves checking whether each indicator shows stronger correlations with its own construct than with other constructs, a procedure known as cross-loadings (Chin, 1998; Ghazali & Latan, 2015). This step is essential to ensure that construct measurements do not overlap and can be clearly distinguished from one another. Thus, this validity testing helps ensure that constructs in the study possess the necessary distinctiveness to yield valid and reliable findings (Gefen et al., 2000; Henseler et al., 2009). The complete results of the Discriminant Validity testing can be seen in the following table:

Table 4. Discriminant Validity Testing

Variable	1	2	3	4	5
Hedonic Motivation	0.884				
Perceived Ease of Use	0.414	0.802			
Perceived Risk	-0.167	-0.206	0.816		
Perceived Trust	0.296	0.274	-0.481	0.795	
Intention to Use	0.541	0.553	-0.239	0.378	0.842

4.5 Discriminant Validity HTMT Result

Table 5 presents the result of Discriminant Validity HTMT Testing. It is a method for assessing discriminant validity in research using partial least squares structural equation modeling (PLS-SEM). Discriminant validity indicates the extent to which a construct differs from other constructs in the research model (Henseler et al., 2015). In this study, HTMT was used to evaluate whether emotional and cognitive factors, as well as the mediating role of perceived trust in the adoption of QRIS digital payments, can be clearly distinguished. According to Henseler et al. (2015), HTMT compares the average correlation between indicators of different constructs (Heterotrait-Heteromethod) with the average correlation within the same construct (Monotrait-Heteromethod). An HTMT value exceeding 0.90 indicates a violation of discriminant validity for constructs that are conceptually very similar, while

a value exceeding 0.85 indicates a problem for more distinct constructs (Henseler et al., 2015). In this study, the HTMT test results showed that all values were below the 0.85 threshold, allowing the conclusion that the constructs in the model meet the criteria for discriminant validity. These findings are consistent with previous research highlighting HTMT as a more sensitive and accurate tool for assessing discriminant validity than traditional methods such as the Fornell-Larcker criterion (Voorhees et al., 2016). Furthermore, using HTMT also enhances the credibility of research findings, as this method reduces the risk of bias and measurement error (Franke & Sarstedt, 2019). This test strengthens confidence that emotional, cognitive, and perceived trust factors each uniquely contribute to QRIS adoption. This study makes an important contribution to understanding the psychological factors and user perceptions that influence the use of digital payment technology, while also affirming the model's validity and reliability. Therefore, HTMT not only helps ensure discriminant validity but also enhances the overall quality of interpretation of research findings. The complete results of the Discriminant Validity HTMT testing can be seen in the following table:

Table 5. Discriminant Validity HTMT Testing

Variable	1	2	3	4
Hedonic Motivation				
Perceived Ease of Use	0.495			
Perceived Risk	0.213	0.269		
Perceived Trust	0.339	0.323	0.590	
Intention to Use	0.618	0.654	0.293	0.429

4.6 R-Square Result

R-square testing in the output of Partial Least Squares Structural Equation Modeling (PLS-SEM) in Table 6 provides insights into the explanatory power of the predictor variables for the constructs under examination. In the context of research on Emotional and Cognitive Drivers of QRIS Usage, the R-square value for the Intention to Use construct is 0.4527, indicating that the predictor variables explain 45.27% of the variance in intention to use QRIS. The slightly lower Adjusted R-square value (0.4465) suggests that the model has been appropriately adjusted for the number of predictors, thereby strengthening the validity of the results (Chin, 2008). Based on Chin's (2008) classification, this R-square value falls into the moderate category, meaning the predictor variables have a fairly significant influence but have not yet reached a substantial level. This indicates that there are still other factors outside the model that might affect the intention to use QRIS, such as environmental or social factors. Meanwhile, the R-square value for the Perceived Trust construct is 0.2897, indicating that the predictor variables explain 28.97% of the variance in QRIS trust perceptions. The comparable Adjusted R-square value (0.2836) confirms that the model remains stable after adjustment (Hair et al., 2017). According to Chin's (2008) classification, this value falls in the moderate category. However, it approaches the lower limit, indicating that the model's predictor factors influence trust perceptions but exert only in relatively limited influence. These findings imply that trust is an important factor, but not the sole determinant, in the adoption of digital payment systems such as QRIS. This study also reveals that the role of trust as a mediator between emotional and cognitive drivers and QRIS usage needs to be strengthened with a more comprehensive approach (Gefen et al., 2003). Overall, the R-square results indicate that emotional and cognitive drivers exert a fairly significant influence on the intention to use QRIS. At the same time, trust plays an important, yet not dominant, role (Venkatesh et al., 2003). These findings are consistent with previous research that states that trust and intention to use are interrelated in the context of financial technology adoption (Davis et al., 1989). Therefore, the researchers recommend strengthening the trust-supporting factors to more effectively increase QRIS adoption (Henseler et al., 2009). The complete results of the R-Square test can be seen in the following table:

Table 6. R-Square Test Results

Dependent	R-Square	R-Square Adjusted	Status
Intention to Use	0.4527	0.4465	Moderate
Perceived Trust	0.2897	0.2836	Weak

4.7 Common Methods Bias Testing

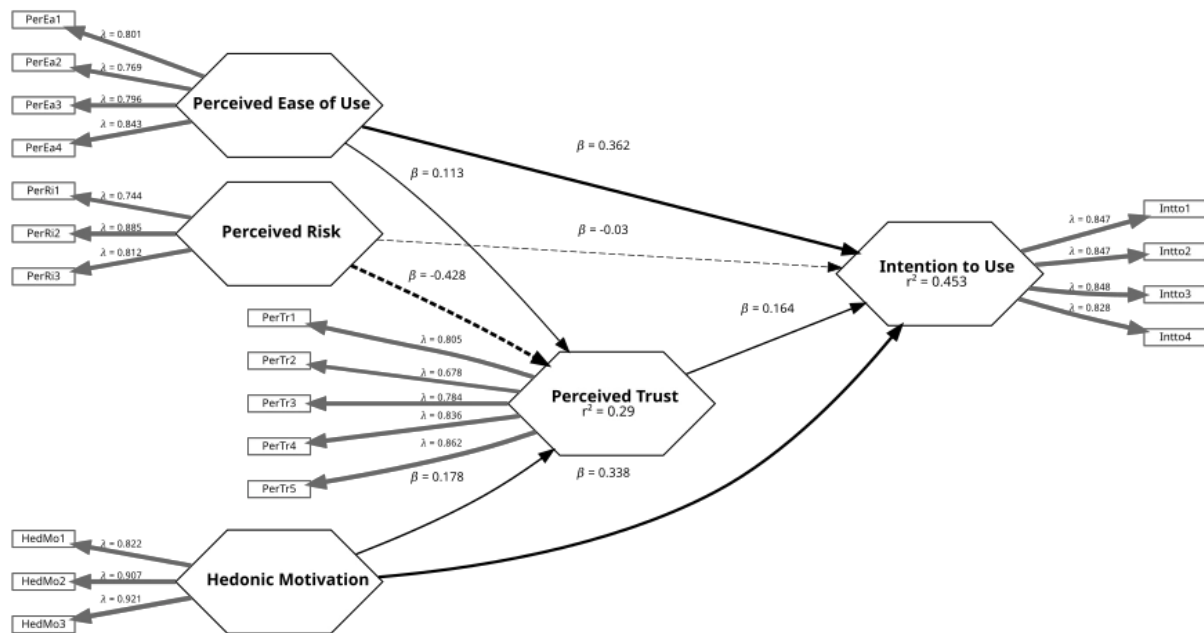
Testing for Common Methods Bias (CMB) in this study was carried out using the Full Collinearity Variance Inflation Factors (FCVIFs) method to ensure that the results of the Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis were not affected by common method bias. According to Kock (2015), an FCVIF score below 3.3 indicates that CMB is absent, suggesting the research data are valid and reliable. In this study, the

dependent variable, Intention to Use, had an FCVIF of 1.827, while the Perceived Trust variable had an FCVIF of 1.408. Both values are well below the maximum threshold of 3.3, indicating no significant common method bias in this research model. This result is also supported by the R-Square values, which indicate that the model adequately explains the variance in the data, namely 45.27% for Intention to Use and 28.97% for Perceived Trust. Overall, these findings strengthen the validity of the research model and indicate that the psychological and user-perception factors measured are not distorted by common-method bias. Thus, the results of this study can be relied upon to explain the relationships among emotion, cognition, and the adoption of digital payments via QRIS.

4.8 Hypothesis Testing

This study uses SEMinR to test the structural model. A bootstrapping procedure with 1000 iterations was used to examine the influence of the constructs. The following are the results of the PLS-SEM analysis:

Figure 2. Research Framework, Structural Equation Modeling (SEM)



The next stage is to test the strength of the established relationships. Testing is conducted by examining t-test scores or p-values from the hypothesis tests. The complete results of the hypothesis testing can be seen in the following table:

Table 7. Hypothesis Testing Results

Hypothesis	Original Sample	Standard Deviation	T-Test	Status
Hedonic Motivation → Intention to Use	0.338	0.048	7.022	Significant
Hedonic Motivation → Perceived Trust	0.178	0.055	3.184	Significant
Perceived Ease of Use → Intention to Use	0.362	0.046	7.860	Significant
Perceived Ease of Use → Perceived Trust	0.112	0.060	1.855	Not Significant
Perceived Risk → Intention to Use	-0.029	0.047	-0.626	Not Significant
Perceived Risk → Perceived Trust	-0.428	0.047	-9.100	Significant
Perceived Trust → Intention to Use	0.164	0.048	3.388	Significant

Table 8. Results of Mediation Hypothesis Testing

No	Independent	→	Mediating	→	Dependent	<i>p1. p2</i> Indirect Effects		<i>p3</i> Direct Effects	Status
1	Hedonic Motivation	→	Perceived Trust	→	Intention to Use	Original Sample	0.029	0.338	Partial Mediation
						Sample Mean	0.029	0.336	
						Standard Deviation	0.013	0.048	
						T-Statistics	2.170	7.022	
2	Perceived Ease of Use	→	Perceived Trust	→	Intention to Use	Original Sample	0.018	0.362	No Mediation
						Sample Mean	0.018	0.365	
						Standard Deviation	0.010	0.046	
						T-Statistics	1.708	7.860	
3	Perceived Risk	→	Perceived Trust	→	Intention to Use	Original Sample	-0.070	-0.029	No Mediation
						Sample Mean	-0.069	-0.033	
						Standard Deviation	0.022	0.047	
						T-Statistics	-3.166	-0.626	

Based on tables 7 and 8, this study examines the influence of psychological factors and user perceptions on the adoption and use of QRIS, while accounting for the mediating role of perceived trust. The hypothesis testing results show that hedonic motivation has a positive and significant effect on intention to use, with an original sample value of 0.3382 and a t-test value of 7.0229, exceeding the critical limit of 1.96. This finding aligns with previous research indicating that hedonic motivation, such as enjoyment and satisfaction with technology use, can increase usage intentions (Dinh & Park, 2024; Wu & Liu, 2023). Additionally, hedonic motivation positively affects perceived trust, with a t-test value of 3.1842, indicating that a pleasant experience with QRIS can enhance users' trust in this digital payment system (Gupta et al., 2019; Lavuri, 2023).

Furthermore, perceived ease of use also has a positive and significant influence on intention to use, with an original sample value of 0.3620 and a t-test value of 7.8602. This aligns with the findings of Liu et al. (2019), who stated that ease of use is a key factor in increasing technology adoption intentions. However, the effect of perceived ease of use on perceived trust is not statistically significant (t-test = 1.8558), despite an original sample value of 0.1125. These results indicate that while ease of use is important to users, it is not, by itself, sufficient to build trust directly (Mendoza-Tello et al., 2019). On the other hand, perceived risk does not have a significant effect on the intention to use, with a t-test value of -0.6263, which is below the critical threshold of 1.96, even though it has a negative effect (-0.0296). This finding is consistent with the research by Al-Qudah et al. (2024), which suggests that risk perception is not always the main barrier to the adoption of digital payment technologies. However, perceived risk has a negative and significant effect on perceived trust, with a t-test value of -9.1004, indicating that the higher the risk perception, the lower the user's trust in the QRIS system (Khalilzadeh et al., 2017; Aboobucker & Bao, 2018). Lastly, perceived trust is shown to have a positive and significant influence on intention to use, with a t-test score of 3.3881, indicating that user trust is an important factor in driving intention to use QRIS. This finding is supported by research from Ooi and Tan (2016) and Singh and Sinha (2020), which indicates that trust is a key mediator in the adoption of digital payment technologies. Overall, the results of this study show that psychological factors, such as hedonic motivation and perceived trust, play a key role in encouraging QRIS adoption, while perceived risk has a greater influence on reducing user trust than on directly affecting usage intentions (Chin et al., 2022; Tripathi et al., 2022).

The analysis shows that perceived trust partially mediates the relationship between hedonic motivation and intention to use. The indirect effect is significant ($\beta = 0.0292$; $T = 2.1704$), while the direct effect of hedonic motivation on intention to use remains strong and significant ($\beta = 0.3382$; $T = 7.0229$). This finding indicates that hedonic experiences such as enjoyment and emotional comfort not only directly drive the intention to use QRIS but also do so indirectly by increasing user trust. Theoretically, this result aligns with the view that positive affective signals serve to reduce uncertainty and strengthen perceptions of digital system reliability (Baabdullah, 2018; Chang et al., 2016). The consistency of findings across mobile commerce and fintech contexts suggests that trust operates as an additional psychological mechanism, not the sole pathway, in translating hedonic motivation into adoption intentions (Thongpapanl et al., 2018; Nourallah, 2023).

The results show that perceived trust does not mediate the relationship between perceived ease of use and intention to use. Although the indirect effect is positive, the mediation pathway is not statistically significant ($T = 1.7080$), while the direct effect of perceived ease of use on intention to use is very strong and significant ($\beta = 0.3620$; $T = 7.8602$). This finding suggests that QRIS ease of use directly increases the intention to use it, without first building trust. Conceptually, this indicates that ease of use functions as a utilitarian factor, instrumental and functional, especially for users already familiar with digital payment technologies. This result is consistent with the

literature, which states that in systems with high familiarity levels, ease of use is more important for efficiency and convenience than for building trust (Mendoza-Tello et al., 2019; Schmidhuber et al., 2020).

Analysis shows that perceived trust does not mediate the relationship between perceived risk and intention to use. While perceived risk has a strong and significant negative effect on perceived trust ($\beta = -0.4282$; $T = -9.1004$), the indirect influence on intention to use is not significant ($\beta = -0.0703$; $T = -3.1660$), and the direct effect of perceived risk on intention to use is also not significant. This finding indicates that while perceived risk reduces user trust, the decrease in trust does not automatically translate into rejection of QRIS usage. Theoretically, this supports the view that in the context of institutionalized digital payments, trust serves as a psychological buffer against risk, rather than as the main conduit to usage intention (Khalilzadeh et al., 2017; Aboobucker & Bao, 2018). Thus, risk impacts system evaluation more than actual usage decisions.

In practical terms, the findings of this study have strategic implications for technology developers and digital payment service marketers, who should prioritize user experience and trust-building in the design and implementation of systems like QRIS. Pleasant, intuitive, and low-barrier experiences have been shown not only to increase intention to use directly but also to strengthen user trust in the system, which, in turn, promotes sustained adoption. Therefore, integrating hedonic design elements such as engaging interfaces, simple transaction processes, and fast system response times must be balanced with enhancing the system's security, transparency, and reliability. These efforts are important for reducing risk perceptions and increasing users' sense of security when transacting digitally (Chang et al., 2016; Lavuri, 2023). Moreover, collaboration among payment service providers, banks, and regulators is necessary to ensure consistent security standards and clear risk communication to users, enabling broader, more sustainable QRIS adoption in society.

4.9 Discussion

The results of this study provide a comprehensive understanding of the roles of emotional, utilitarian, risk, and trust factors in shaping the Intention to use QRIS as a digital payment system in Indonesia (Dinh & Park, 2024; Wu & Liu, 2023). The findings show that Hedonic Motivation has a positive and significant influence on Intention to Use, confirming that enjoyable experiences and emotional satisfaction are the main drivers of adoption of digital payment technology (Dinh & Park, 2024; Wu & Liu, 2023). Furthermore, Hedonic Motivation has been shown to increase Perceived Trust, indicating that positive emotional experiences contribute to trust in the QRIS system (Gupta et al., 2019; Lavuri, 2023). These findings reinforce the view that emotional factors serve as an initial stimulus influencing users' evaluations of the reliability and integrity of digital payment technology (Chang et al., 2016; Lavuri, 2023). The results also demonstrate that Perceived Ease of Use has a positive and significant effect on Intention to Use, affirming that ease of use is a key utilitarian factor in driving QRIS adoption (Liu et al., 2019; Featherman & Hajli, 2016). However, Perceived Ease of Use does not have a significant effect on Perceived Trust, suggesting that operational ease alone is not sufficient to build user trust directly (Mendoza-Tello et al., 2019; Chin et al., 2022). These findings indicate that functional aspects must be supported by security and system reputation to enhance user trust (Tripathi et al., 2022; Chin et al., 2022).

On the other hand, Perceived Risk does not have a significant influence on Intention to use, but has a negative and significant effect on Perceived Trust, confirming that perceived risk impacts trust evaluation more than the direct usage decision (Khalilzadeh et al., 2017; Aboobucker & Bao, 2018). This finding is consistent with the literature, which states that risk does not always hinder adoption but can erode trust if not properly managed (Al-Qudah et al., 2024; Singh & Sinha, 2020). Furthermore, Perceived Trust has been shown to have a positive, significant effect on Intention to Use, underscoring its role as a key psychological determinant of the adoption of digital payment technology (Ooi & Tan, 2016; Singh & Sinha, 2020). User trust in QRIS is formed by a combination of pleasurable emotional experiences, low risk perception, and assurances of system security (Chin et al., 2022; Tripathi et al., 2022).

Mediation analysis shows that Perceived Trust partially mediates the relationship between Hedonic Motivation and Intention to Use, indicating that hedonic motivation operates through both direct and indirect pathways in encouraging QRIS usage intentions (Gupta et al., 2019; Lavuri, 2023). Conversely, Perceived Trust does not mediate the relationship between Perceived Ease of Use and Intention to Use, suggesting that utilitarian factors mainly operate directly rather than through trust (Mendoza-Tello et al., 2019; Liu et al., 2019). In addition, Perceived Trust does not mediate the relationship between Perceived Risk and Intention to Use, indicating that trust functions more as a psychological buffer than as a mechanism that transmits risk to usage decisions (Khalilzadeh et al., 2017; Al-Qudah et al., 2024).

Overall, these findings affirm that the mechanism for adopting QRIS is selective and nonlinear, in which emotional factors are more effectively mediated by trust than utilitarian and risk factors (Chang et al., 2016; Lavuri, 2023). In practical terms, these results highlight the importance of strategies for developing QRIS that balance

enjoyable user experiences, ease of use, and strengthened system security to improve trust and expand adoption within Indonesian society (Lavuri, 2023; Chin et al., 2022).

5. CONCLUSION

5.1 Conclusion

This study explores the psychological factors and user perceptions that influence the adoption and use of the QRIS as a digital payment method (Dinh & Park, 2024; Wu & Liu, 2023). The results indicate that Hedonic Motivation has a positive and significant effect on Intention to Use QRIS, affirming that enjoyable experiences and emotional satisfaction are key drivers in the adoption of digital payment technologies (Dinh & Park, 2024; Wu & Liu, 2023). This finding is consistent with research that emphasizes the central role of affective experiences in shaping intentions to use new technologies (Dinh & Park, 2024; Chang et al., 2016). Additionally, Hedonic Motivation also has a positive and significant impact on Perceived Trust, indicating that pleasant QRIS usage experiences can enhance users' trust in the digital payment system (Gupta et al., 2019; Lavuri, 2023).

The study also shows that Perceived Ease of Use has a positive and significant effect on Intention to Use QRIS, confirming that operational convenience is an important utilitarian factor in encouraging the intention to use digital payment technology (Liu et al., 2019; Featherman & Hajli, 2016). This strengthens the view that users are more likely to accept technologies perceived as easy to use and not requiring high cognitive effort (Liu et al., 2019; Neves et al., 2024). However, Perceived Ease of Use does not significantly affect Perceived Trust, indicating that ease of use alone is not enough to directly build user trust (Mendoza-Tello et al., 2019; Chin et al., 2022). This suggests that establishing trust requires factors beyond the system's functional aspects, such as security, transparency, and service reputation (Mendoza-Tello et al., 2019; Tripathi et al., 2022).

On the other hand, Perceived Risk does not have a significant effect on Intention to use QRIS. However, it has a significant negative impact on Perceived Trust, indicating that increased risk perception can reduce users' trust in the QRIS system (Khalilzadeh et al., 2017; Aboobucker & Bao, 2018). This underscores that risk plays a greater role in shaping users' psychological evaluation of the system than in their direct decision to use it (Khalilzadeh et al., 2017; Kalinic et al., 2020). This aligns with Al-Qudah et al. (2024), who state that risk is not always the main barrier to adoption but can undermine trust if not properly managed (Al-Qudah et al., 2024; Singh & Sinha, 2020).

Furthermore, Perceived Trust has been proven to have a positive and significant effect on Intention to Use QRIS, affirming its role as an important psychological determinant in the adoption of digital payment technology (Ooi & Tan, 2016; Singh & Sinha, 2020). This finding aligns with the literature, indicating that trust is a primary prerequisite for users when deciding to use digital financial services (Kalinic et al., 2019; Chin et al., 2022). However, mediation tests indicate that Perceived Trust partially mediates the relationship between Hedonic Motivation and Intention to Use, suggesting that hedonic motivation operates through two pathways: both directly and indirectly via the formation of trust (Gupta et al., 2019; Lavuri, 2023). Conversely, Perceived Trust does not mediate the relationships among Perceived Ease of Use, Perceived Risk, and Intention to Use, suggesting that utilitarian factors and risk tend to influence user decisions through direct mechanisms or other pathways beyond trust (Mendoza-Tello et al., 2019; Khalilzadeh et al., 2017).

Overall, these findings indicate that QRIS adoption is selective and nonlinear, with emotional factors more effectively mediated by trust than by utilitarian factors and risk (Chang et al., 2016; Lavuri, 2023). These findings provide practical implications for developers and marketers, suggesting that they should not only emphasize ease of use but also design enjoyable user experiences and strengthen security aspects to build user trust (Lavuri, 2023; Chin et al., 2022). With appropriate strategies in design, education, and risk communication, the adoption of QRIS can be optimized more broadly and accelerate economic digitalization in Indonesia (Tripathi et al., 2022; Lavuri, 2023).

5.2 Implication

5.2.1 Theoretical Implications

This research makes a significant theoretical contribution to the literature on digital payment technology adoption by emphasizing the importance of integrating emotional, cognitive, and trust factors in explaining the intention to use QRIS. First, the finding that hedonic motivation positively influences intention to use, both directly and through partial mediation by perceived trust, extends the Technology Acceptance Model (TAM), which traditionally focuses on utilitarian factors. This result indicates that affective dimensions serve not only as direct drivers of technology adoption but also shape cognitive evaluations, such as trust, thereby enriching our understanding of the mechanisms behind digital technology adoption. Second, the finding that perceived trust mediates only the relationship between hedonic motivation and intention to use, not the effects of perceived ease

of use or perceived risk, provides an important conceptual contribution, showing that trust's role is selective and contextual. This affirms that emotional factors rely more on the mechanism of trust compared to utilitarian factors. Third, the result that perceived risk negatively affects perceived trust but not intention to use challenges the classic assumption that risk is always a direct barrier to technology adoption. This finding suggests that risk functions more as a psychological antecedent of trust than as a direct determinant of usage behavior, thereby opening the door to developing more nonlinear, layered models of technology adoption.

5.2.2 Managerial Implications

From a managerial perspective, the findings of this study offer clear practical implications for developers, service providers, and marketers of digital payment systems. First, since hedonic motivation has both direct and indirect influences through perceived trust, QRIS developers need to design user experiences that are not only functional but also enjoyable, for example, through interactive features, gamification, or loyalty programs that enhance users' emotional engagement. Second, the finding that perceived ease of use has a strong direct effect on intention to use but not on trust shows that an easy-to-use interface is a prerequisite for adoption, but not the main factor in building trust. Therefore, improvements in ease of use should be accompanied by other strategies, such as security assurances, system transparency, and communication of reputation. Third, since perceived risk reduces perceived trust, managers need to proactively manage risk perceptions through clear security communications, system certifications, and user education on data and transaction protection. Fourth, given the central role of trust, collaboration with credible financial institutions and leveraging institutional endorsements can be effective strategies to strengthen QRIS's image as a reliable payment system.

5.2.3 Policy Implications

The policy implications of this research are relevant to strengthening Indonesia's digital payment ecosystem. The finding that perceived risk reduces user trust underscores the need for policies that emphasize security standards, consumer protection, and oversight of digital payment systems. Regulators can reinforce the policy framework by implementing encryption standards, multi-factor authentication, and transparent complaint-handling mechanisms. Additionally, the government plays a crucial role in improving digital literacy and public trust by running information campaigns on QRIS that highlight its benefits, security, and user protection. Incentive policies, such as transaction subsidies or coordinated cashback programs, can also accelerate QRIS adoption while strengthening public trust in the national digital payment system.

5.2.4 Social Implications

Socially, this study has important implications for supporting financial inclusion and accelerating Indonesia's economic digitalization. The findings that emotional, cognitive, and trust factors shape the intention to use QRIS indicate that adoption barriers extend beyond technical issues to psychological ones. Therefore, promotional and educational strategies need to be designed inclusively to reach segments of society less familiar with digital technology. Furthermore, the role of perceived trust as a key mechanism emphasizes the importance of transparency, accountability, and security in building public participation in digital payment systems. By ensuring that QRIS is accessible, secure, and provides a positive user experience, this research contributes to strengthening financial inclusion, increasing participation in the digital economy, and supporting more sustainable and equitable economic development.

5.3 Recommendation

Based on the study's findings on psychological factors and user perceptions in the adoption and use of QRIS, several strategic recommendations can be proposed for technology developers, marketers, and regulators to sustainably increase the adoption and use of this digital payment system. First, since Hedonic Motivation has been shown to affect Intention to Use positively and is partially mediated by Perceived Trust, QRIS developers and marketers should design user experiences that are not only functional but also enjoyable. Integrating interactive features, gamification, or reward systems in digital payment applications can enhance users' emotional engagement and simultaneously strengthen trust in the system (Dinh & Park, 2024; Gupta et al., 2019). In addition, promotional strategies that highlight convenience, enjoyment, and a digital lifestyle can increase QRIS's appeal among potential users. Second, although Perceived Ease of Use significantly affects intention to use, the findings indicate that this factor does not directly build trust. Therefore, technology developers must ensure QRIS interface designs that are intuitive, simple, and consistent to minimize technical obstacles, especially for new users (Liu et al., 2019). These efforts should be supported by user education through interactive tutorials, visual guides, and responsive support services to reinforce the perception of ease of use and contribute to wider adoption (Mendoza-Tello et al., 2019). Third, since Perceived Risk negatively affects Perceived Trust, risk management is a key priority for increasing user trust. Developers and regulators need to strengthen security by implementing robust encryption, multi-factor authentication, and transparent transaction monitoring systems (Khalilzadeh et al., 2017). In addition, clear privacy

policies and open communication regarding user data protection can help to reduce concerns about digital security risks (Aboobucker & Bao, 2018). Public education campaigns emphasizing risk mitigation measures and QRIS security are also important for enhancing community perceptions of safety (Al-Qudah et al., 2024). Fourth, considering Perceived Trust as the main determinant of Intention to Use, marketers must consistently build QRIS's image as a safe, reliable payment system supported by trusted institutions. Collaborations with financial institutions, central banks, or government agencies can strengthen QRIS's legitimacy and credibility (Ooi & Tan, 2016). In addition, utilizing user testimonials, success stories, and reputation communications can reinforce public trust in QRIS (Singh & Sinha, 2020).

In Indonesia's socio-economic context, inclusive education and information programs are necessary to reach all segments of society. Community, school, and MSME-level training programs can help reduce the digital literacy gap and increase community readiness to use QRIS (Handarkho & Harjoseputro, 2020). The government and industry players can also offer incentives, such as discounts or cashback, to encourage early adoption and promote sustainable QRIS usage habits (Lavuri, 2023). Overall, these recommendations emphasize that the success of QRIS adoption depends not only on technical aspects but also on managing psychological factors and user perceptions. By integrating positive emotional experiences, ease of use, risk mitigation, and strengthening trust, QRIS has the potential to become a strategic instrument for supporting inclusive and sustainable digital economic development in Indonesia (Chang et al., 2016).

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Appendix:

Construct	Code	Measurement Items
Hedonic Motivation (HedMo) Norman et al. (2022)	HedMo1	I enjoy using QRIS.
	HedMo2	Using QRIS is a fun experience for me.
	HedMo3	I find pleasure in using QRIS.
Intention to Use (Intto) Irma & Anetta (2022)	Intto1	Given the opportunity, I intend to use QRIS for payment transactions.
	Intto2	I am likely to use QRIS in the near future.
	Intto3	I am open to using QRIS for my payment transactions.
	Intto4	I intend to use QRIS whenever the opportunity arises.
Perceived Risk (PerRi) D. & Z. (2023)	PerRi1	I feel that there is a risk in using QRIS for payment transactions.
	PerRi2	I worry about the security of my personal information when using QRIS.
	PerRi3	I am concerned about possible financial losses when using QRIS.
	PerRi4	I fear losing money when making payments using QRIS.
Perceived Trust (PerTr) Anurag & Shibashish (2024)	PerTr1	I trust QRIS as a payment system.
	PerTr2	QRIS provides services that are in my best interest.
	PerTr3	I believe that QRIS fulfills what it promises.
	PerTr4	I believe that QRIS is reliable for payment transactions.
	PerTr5	I feel confident using QRIS for my payment activities.
Perceived Ease of Use (PerEa) D. & Z. (2023)	PerEa1	I find QRIS easy to use for payment transactions.
	PerEa2	QRIS is user-friendly.
	PerEa3	I can easily find and complete payment transactions using QRIS.
	PerEa4	Using QRIS does not require much effort.