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The Effect of Ease of Use, Benefits, and Risks on QRIS Usage Intention with Trust as Moderator

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Abstract

This study aims to analyze the influence of perceived ease of use, perceived benefits, and perceived risks on the intention to use QRIS (Quick Response Code Indonesian Standard) in Semarang City, while also evaluating the role of trust as a moderating variable. The background of this research lies in the increasing adoption of digital payment systems in urban environments and the need to understand the behavioral drivers that shape user acceptance. Employing a quantitative explanatory approach, this study uses Partial Least Squares–Structural Equation Modeling (PLS-SEM) for data analysis. A total of 200 active QRIS users in Semarang participated in the survey. The findings indicate that both perceived ease of use and perceived benefits significantly and positively influence the intention to use QRIS. Perceived risk also shows a positive but weaker impact. Trust does not moderate the relationship between perceptions and intention to use, nor does it directly affect intention. However, trust is significantly influenced by ease and benefits, but not by perceived risk. These results refine the Technology Acceptance Model (TAM) and suggest that promoting usability and visible benefits is key to accelerating digital payment adoption.

Keywords

Perception of ease, Perception of benefits, Risk perception, Trust, Intention to use. QRIS, TAM.

1. Introduction

Digital transformation in the financial sector has driven the development of non-cash payment systems such as Quick Response Code Indonesian Standard (QRIS), which aims to simplify transactions and increase financial inclusion (Nida & Alfirdaus, 2024). This transformation reflects how digital technology plays a central role in changing the way financial services are accessed and utilized by the public. One of the most prominent innovations resulting from this transformation is the QRIS system, which unifies various QR code-based payment methods into a single standard, making it easier for users and merchants to conduct digital transactions. The adoption of QRIS raises important questions regarding the psychological factors that influence user intentions, especially perceptions of ease of use, benefits, and risks. These perceptions become key indicators in determining whether users will accept and continue using the technology. Ratnawati and Malik (2024) stated that these perceptions have a significant influence on the intention to use QRIS, emphasizing their critical role in adoption behavior.

These three perceptions do not stand alone, but are influenced by trust factors. The level of trust in the system related to security, privacy, and reliability plays a moderating role in the influence of perception on usage intentions (Creswell & Creswell, 2020; Nida & Alfirdaus, 2024). This means that even though users find QRIS easy and useful, without high trust, that intention may not be realized into real behavior. Conversely, strong trust can neutralize the negative effects of high-risk perceptions.

Previous studies have highlighted the importance of perceived ease, benefits, and risks, but few have integrated the role of trust as a moderating variable into a single conceptual model (Florensia & Budiantara, 2023; Roberts et al., 2024). In addition, Furthermore, examining the situation, an unexpected trend is revealed: despite the surge in the number of QRIS users, the average transaction per active user actually decreased in 2023. This indicates that adoption is shallow or not yet sustainable, reinforcing the importance of examining the psychological factors that influence QRIS use. According to Azzahra (2024), highlight the direct influence of user perception on adoption intention. However, there are not many studies that explicitly test the role of trust as a moderator in this relationship. Therefore, this study attempts to fill the theoretical gap (research gap) by analyzing how trust changes the influence of perceived ease, benefits, and risks on QRIS usage intention (Nuraini & Hidayah, 2023; Rupa, 2025).

This study enriches the literature on the Technology Acceptance Model (TAM) and consumer psychology, and adds the dimension of trust as an important factor that has not been widely explored. Its novelty lies in the integrative approach and the local context of Semarang, which makes this study relevant in developing a more inclusive digital payment technology adoption strategy in Indonesia. This study takes the context of Semarang City which represents an urban area with accelerated digitalization, but also faces digital literacy challenges. This study aims to analyze the relationship between the three perceptions and the intention to use QRIS, while exploring trust as a moderating variable. With a quantitative approach, the results are expected to provide practical contributions for regulators and service providers in improving QRIS adoption strategies (Pasolo & Afdana, 2023; Susanto & Dahlan, 2023).

2. Literature Review and Hypothesis Development

Technology Acceptance Model (TAM) was developed by Davis (1989) to explain user acceptance of technology. This model emphasizes two main factors: perceived ease of use and perceived usefulness, which influence the intention and actual

behavior of using technology. In the context of QRIS, many studies such as Ratnawati and Malik (2024) and Nida and Alfirdaus (2024) show that ease and usefulness have a positive effect on intention to use, while risk has a negative impact.

This model is also often developed by adding a trust variable as a moderator between intention and behavior. Trust has been shown to be important in strengthening or weakening the relationship between intention and actual use of QRIS (Diah, 2023). Therefore, TAM is an appropriate framework in analyzing QRIS adoption behavior in Indonesia theoretically and empirically.

2.1. The Role of Intention to Use QRIS

Usage intention is a form of readiness or tendency of a person to use a system or technology in the near future. In the context of a digital payment system such as Quick Response Code Indonesian Standard (QRIS), usage intention describes how much an individual wants and plans to use QRIS routinely in daily transaction activities. This intention is the initial stage before the formation of actual usage behavior. Several studies have shown that usage intention is greatly influenced by user perceptions of aspects such as ease of use, perceived benefits, level of risk, and level of trust in the system. When individuals feel that the system is easy to use, useful, and safe, the tendency to use the system is also higher (Ratnawati & Malik, 2024; Nida & Alfirdaus, 2024).

In addition, usage intention can also be influenced by social and emotional factors, such as encouragement from the surrounding environment, the reputation of the service provider, and the user's positive experience in trying the system. Recent studies have shown that convenience, time efficiency, and perceived security are the main considerations for users in forming the intention to use QRIS (Cut et al., 2024; Jusman & Fauziah, 2024; Sauder, 2025). To measure this intention quantitatively, Amamilah (2024) identified three main indicators, namely: Interest in the object of interest, feelings of pleasure towards technology, and a real tendency to use. Therefore, understanding usage intention is very important for designing appropriate promotional and educational strategies to encourage the adoption of digital payment technology in Indonesia.

H1: Perceived ease of use has a positive effect on intention to use.

H2: Perceived benefits have a positive effect on intention to use.

H3: Risk perception has a negative effect on intention to use.

2.2. Trust as a Moderator in QRIS Usage Intention

Trust plays a moderating role that can either strengthen or weaken the influence of other variables on behavioral intention. In the case of QRIS adoption in Semarang, trust becomes a central pivot that can reshape user attitudes toward technology. According to Jusman and Fauziah (2024), trust mitigates users' fears and reinforces positive experiences with the system, even when users perceive potential risks or barriers. Trust moderates the influence of perceived ease of use on intention by providing assurance that even a seemingly complex technology can be relied upon when needed (Etikan et al., 2016; Fazriansyah, 2023; Natsir & Bangun, 2025). This is particularly relevant in the QRIS context, where digital literacy may vary across users. Ratnawati and Malik (2024) also argue that trust can cushion the impact of uncertainty and technical unfamiliarity.

In relation to perceived benefits, trust ensures that users believe the promised advantages of using QRIS such as transaction speed and convenience will be consistently delivered. As Nida and Alfirdaus (2024) describe, users are more likely to believe in the usefulness of a system if they also trust its underlying mechanism and the provider's credibility (Janna & Herianto, 2021; Azzahra, 2024). Moreover, trust can reduce the negative influence of perceived risk. When users feel confident in the system's integrity and in the providers' ability to handle data and transaction

security, the impact of perceived risks diminishes. This is supported by Cut et al. (2024), who emphasized the role of trust in easing user concerns regarding digital transaction threats.

Trust in digital technology use, especially in QRIS, is defined as users' belief in system security, reliability, and integrity in handling transactions and protecting data (Nida & Alfirdaus, 2024). Trust builds through positive experiences, provider reputation, and security assurances. It influences usage intention directly and moderates the effect of perceived ease and benefits (Jusman & Fauziah, 2024). Factors shaping trust include system integrity and data security (Ghozali, 2018; Cut et al., 2024), with indicators from Pontoh (2022) including reliability, security, problem-solving, and user needs fulfillment.

- H4: Trust moderates the influence of perceived ease of use on intention to use.
- H5: Trust moderates the influence of perceived benefits on intention to use.
- H6: Trust moderates the influence of risk perception on intention to use.

2.3. The Role of Trust in Intention to Use QRIS

Trust does not only act as a moderator but also as a direct outcome influenced by users' perceptions of ease of use, benefits, and risk. In the adoption of QRIS, perceived ease of use encourages confidence in technology. If users feel that the system is not complicated and functions reliably, trust is built more easily (Ghozali & Latan, 2021; Ratnawati & Malik, 2024). This trust then becomes a stepping stone to stronger intention to use QRIS. Similarly, perceived benefits such as transaction speed, accessibility, and cost efficiency directly affect trust. Nida and Alfirdaus (2024) explain that when users consistently experience the promised advantages of QRIS, their trust in the system solidifies. A beneficial system naturally earns user confidence, especially if those benefits are tangible and consistent.

On the contrary, risk perception tends to weaken trust. Jusman and Fauziah (2024) and Cut et al. (2024) mention that concerns over data breaches or transaction failures can undermine user trust. If users believe there is a high risk in using the system, their trust diminishes regardless of how useful or easy the system is. Finally, trust has a direct influence on the intention to use QRIS. As stated by Amamilah (2024), one's tendency to adopt a system depends significantly on how much trust they place in that system. Trust serves as a psychological assurance that enables users to engage with QRIS without hesitation.

- H7: Perceived ease of use has a positive effect on trust in intention to use.
- H8: Perceived benefits have a positive effect on trust in intention to use.
- H9: Risk perception has a negative effect on trust in intention to use.
- H10: Trust has a direct positive influence on the intention to use.

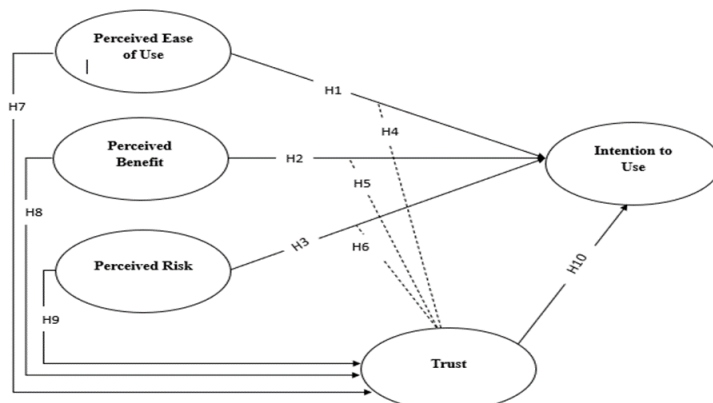


Figure 1. Research Framework

The conceptual framework in the Figure 1 illustrates the relationships among perceived ease of use, perceived benefit, perceived risk, trust, and intention to use QRIS (Quick Response Code Indonesian Standard). It proposes that perceived ease of use (H1), perceived benefit (H2), and perceived risk (H3) directly affect users' intention to use QRIS. Additionally, trust acts as a moderating variable, strengthening or weakening the effects of perceived ease of use (H4), perceived benefit (H5), and perceived risk (H6) on intention to use. The model also includes mediation and direct effects: perceived ease of use (H7), benefit (H8), and risk (H9) each influence trust, which in turn has a direct positive effect on intention to use (H10). The framework underscores the central role of trust in shaping behavioral intentions, while also recognizing the importance of usability perceptions, benefits, and risk awareness in QRIS adoption.

3. Methods

This study uses a quantitative approach with an explanatory type to test the influence of perceived ease, benefits, and risks on the intention to use QRIS, moderated by trust (Sugiyono, 2021). The analysis was carried out using the PLS-SEM method using SmartPLS. The research procedures include: Formulation of problems and hypotheses, preparation and testing of questionnaires, data collection from QRIS users in Semarang, data analysis, and interpretation of results. The research was conducted in Semarang City in the period 17–30 June 2025, by distributing questionnaires to selected respondents.

The population is all QRIS users in Semarang City and is categorized as an infinite population. Using non-probability purposive sampling technique, with the following criteria: active QRIS users in Semarang, have used QRIS in the last three months, and are willing to fill out the questionnaire. The target sample was set at 200 respondents based on the guidelines of Hair et al. (2021). Perceived Ease of Use refers to physical, mental effort and ease of learning. Perceived Benefits relate to system effectiveness, productivity and importance. Risk Perception includes financial risks, privacy, time, etc. Trust as a mediation involves security, troubleshooting, and reliability. Intention of Use encompasses interest, enjoyment, tendency to repeat.

The validity of the data in this study was assessed through validity and reliability tests. Validity tests were conducted using two approaches, namely convergent validity and discriminant validity. Convergent validity is said to be met if the Average Variance Extracted (AVE) value is more than 0.5 and the loading factor of each indicator is more than 0.7. Meanwhile, discriminant validity is measured using the cross-loading method and the Fornell-Lacker criteria, which require indicators to have a higher correlation with their constructs compared to other constructs. Reliability testing aims to assess the consistency of the measuring instrument, and is carried out using composite reliability values and Cronbach's alpha, where both must be more than 0.7 for the instrument to be declared reliable.

The data analysis techniques used in this study consist of descriptive and inferential statistical analysis. Descriptive statistics are used to describe the characteristics of respondents and their perception tendencies towards the variables studied. Meanwhile, inferential statistics use the Partial Least Square–Structural Equation Modelling (PLS-SEM) method which includes testing the outer model, inner model, and hypothesis testing. The analysis was carried out using a variance-based SEM approach that utilizes the bootstrapping technique to test the significance of the relationship between variables. Hypothesis testing is carried out through the t-test (with a t value > 1.96) and other indicators such as Goodness of Fit (GoF), R-squared (R^2), Effect Size (F^2), and Predictive Relevance (Q^2) to evaluate the strength and quality of the model. In addition, mediation testing is carried out by looking at the specific indirect effect and p-value <0.05 to determine the

significance of the indirect relationship between variables through the mediating variable.

4. Results

Table 1 shows the distribution of demographic characteristics of the 200 respondents involved in the study. Based on gender, the majority of respondents were female (54%), while males were 46%. Based on age group, the majority were in the age range of 28–37 years (36%) and 18–27 years (32%), which shows that the majority of respondents came from young adults and were digitally productive. In terms of last education, the majority of respondents have a bachelor's degree (S1) as much as 45%, followed by high school/vocational school as much as 30%, and D3 as much as 25%. This indicates that most respondents have a secondary to higher educational background. Meanwhile, based on monthly income, the majority of respondents are in the category of IDR 3,000,000–5,000,000 (35%), followed by IDR 1,000,000–3,000,000 (33%), which shows the diversity of purchasing power levels in this study sample.

Table 1. Respondent Demographics

Variables	Category	Frequency (n)	Percentage (%)
Gender	Man	92	46%
	Woman	108	54%
Age	18–27 years	64	32%
	28–37 years	72	36%
	38–47 years	44	22%
	>48 years	20	10%
	High School/Vocational School	60	30%
Last education	D3	50	25%
	S1	90	45%
	< Rp1.000.000	28	14%
Income/Month	Rp1.000.000–3.000.000	66	33%
	Rp3.000.000–5.000.000	70	35%
	> Rp. 5.000.000	36	18%

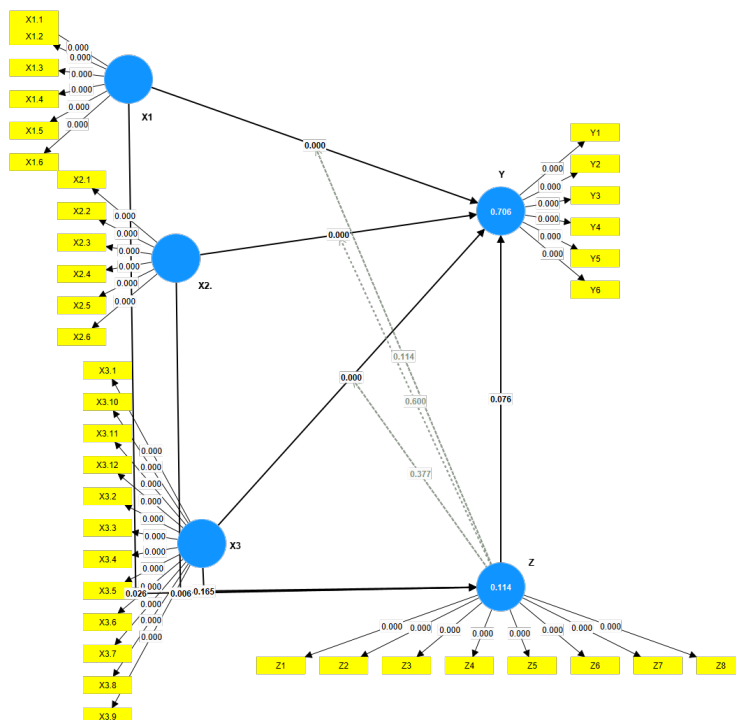


Figure 2. Research Framework

The Figure 2 presents a PLS-SEM model that maps the relationships between three independent variables Perceived Ease of Use (X1), Perceived Benefit (X2), and Perceived Risk (X3) the mediator Trust (Z), and the dependent variable Intention to Use (Y). Each latent construct is shown with its respective measurement items (e.g., X1.1–X1.6) accompanied by their significance values, which are predominantly zero, indicating strong statistical support. The path coefficients reveal significant effects: both ease of use and perceived benefit positively influence trust, while risk perception also impacts trust, albeit with differing strength. Trust, in turn, exerts a robust positive influence on intention to use, with a substantial coefficient. Direct effects of perceived ease, benefit, and risk on intention are weaker or insignificant, underscoring trust’s central role as a mediator. The high R² value for intention (0.706) indicates that the model explains a large portion of the variance in usage intention, while trust itself has a more modest explanatory power (0.114). Together, the diagram highlights the critical importance of trust as a bridge between users’ perceptions and their intention to adopt the system.

Table 2. Outer Test

Indicator	Outer Loading	AVE	Description
X1.1	0.963	0.901	Valid
X1.2	0.953		
X1.3	0.939		
X1.4	0.942		
X1.5	0.954		
X1.6	0.945		
X2.1	0.915	0.858	Valid
X2.2	0.877		
X2.3	0.924		
X2.4	0.945		
X2.5	0.936		
X2.6	0.960		
X3.1	0.889	0.822	Valid
X3.10	0.942		
X3.11	0.918		
X3.12	0.931		
X3.2	0.914		
X3.3	0.884		
X3.4	0.938		
X3.5	0.866		
X3.6	0.871		
X3.7	0.892		
X3.8	0.928		
X3.9	0.903		
Y1	0.960	0.898	Valid
Y2	0.925		
Y3	0.952		
Y4	0.949		
Y5	0.959		
Y6	0.939		
Z1	0.924	0.888	Valid
Z2	0.950		
Z3	0.944		
Z4	0.954		
Z5	0.924		
Z6	0.954		
Z7	0.940		
Z8	0.948		

Table 2 presents the results of the convergent validity test through the outer loading and average variance extracted (AVE) values. All indicators in each variable show an outer loading value above 0.70, meeting the validity requirements. The AVE value of each construct is also above 0.50, indicating that more than 50% of the variance of the indicator can be explained by the construct. Thus, all indicators in the variables Perceived Ease of Use (X1), Perceived Benefit (X2), Perceived Risk (X3), Intention to Use (Y), and Trust (Z) have very good convergent validity.

Table 3. Reliability Test

Variable	Cronbach's Alpha	Composite Reliability
Perceived Ease of Use	0.978	0.979
Perception of Benefits	0.967	0.967
Risk Perception	0.98	0.983
Intent of Use	0.977	0.978
Trust	0.982	0.986

Table 3 shows the Cronbach's Alpha and Composite Reliability values of each construct. All variables have values above 0.70, even approaching or above 0.95. This indicates that each construct has very high internal reliability, with very strong consistency of answers between items.

Table 4. R-Square Test

Variables	R-Square	R-Square Adjusted
Intent of Use	0.706	0.695
Trust	0.114	0.1

Table 4 show the variable Intention to Use (Y) has an R-Square value of 0.706, which means that 70.6% of the variance in intention to use can be explained by the perception of ease, benefits, risks, and trust. Meanwhile, the construct Trust (Z) has an R-Square value of 0.114, which shows that the perception variable only explains 11.4% of the variance in trust. This indicates that there are other factors outside the model that influence the formation of user trust.

Table 5. F2 Test and Q2 test

Variable	Intent of Use	Trust	Q ² (=1-Sse/Sso)
Perceived Ease of Use	1.072	0.033	0.853
Perception of Benefits	0.275	0.046	0.793
Risk Perception	0.089	0.015	0.786
Intent of Use			0.848
Trust			0.849

Based on Table 5, the Perceived Ease of Use variable (X1) has a large influence on Intention to Use (Y) with an F-Square value of 1.072, indicating a large effect. The Perceived Benefits variable (X2) has a moderate effect on Y (0.275), and Perceived Risk (X3) has a small effect (0.089). On the Trust variable (Z), the influence of each perception variable tends to be weak, as indicated by a small F-Square value (<0.05), except for X2 which shows a weak to moderate effect. In Table 5, all Q-Square values are greater than 0, which is between 0.786–0.853. This indicates that the model has very good predictive relevance, because it is able to predict endogenous variables quite accurately. The high Q² value on the variables Intention to Use (Y) and Trust (Z) indicates that the structural model built is quite strong in predicting the relationship between variables.

Table 6. Path Coefficients

Hypothesis	Sample	Mean	Std. Dev	T-Statistics	P-Values
Perceived Ease of Use -> Intention to Use	0.632	0.634	0.042	15.221	0.000
Perceived Ease of Use -> Trust	0.177	0.180	0.080	2.224	0.026
Perceived Benefits -> Intention to Use	0.313	0.314	0.051	6.202	0.000
Perceived Benefits -> Trust	0.206	0.209	0.075	2.740	0.006
Risk Perception -> Intention to Use	0.171	0.171	0.045	3.819	0.000
Risk Perception -> Trust	0.117	0.117	0.084	1.389	0.165
Trust -> Usage Intention	0.083	0.080	0.047	1.775	0.076

Table 6 presents the results of the path coefficient test which shows the magnitude of the direct influence between latent variables in the research model. Based on the results of data processing using the Partial Least Squares (PLS) method, it is known that most of the relationships between variables have strong significance values. Perceived Ease of Use (X1) has a very significant influence on Intention to Use (Y) with a coefficient of 0.632 and a t-statistic of 15.221 ($p < 0.001$), which means that the higher the perceived ease, the higher the individual's intention to use the system. In addition, X1 also has a significant effect on Trust (Z) with a p value = 0.026, which shows that ease of use also forms users' trust in the system.

Perceived Usefulness (X2) also shows a significant influence on Intention to Use (Y) ($\beta = 0.313$, $p < 0.001$) and Trust (Z) ($\beta = 0.206$, $p = 0.006$). This indicates that users' perceptions of the benefits of using the system encourage them to trust and intend to use it. This result is consistent with the Technology Acceptance Model (TAM) theory which states that perceived usefulness is the main predictor of intention to use technology. Risk Perception (X3) has a significant effect on Intention to Use (Y) ($\beta = 0.171$, $p = 0.000$), indicating that the lower the risk perception, the greater the intention to use. However, the effect of X3 on Trust (Z) is not significant ($\beta = 0.117$, $p = 0.165$). This indicates that although risk is perceived as an important factor in the decision to use, it does not directly shape user trust in the system, which may be influenced by other variables such as experience, security assurance, or credibility of the provider.

The relationship between Trust (Z) and Intention to Use (Y) was found to be statistically insignificant ($\beta = 0.083$, $p = 0.076$), although the direction of the relationship remains positive. This indicates that in the context of this study, trust is not strong enough to mediate the relationship between user perceptions of the system and its intention to use. However, the p-value approaching the significance limit (0.05) indicates a tendency for the effect to be stronger in a different context or population. These results reinforce the findings in previous literature that ease and usefulness are the two most dominant factors in forming the intention to use a system, while trust, although important, is not always a significant mediator depending on the context of use.

5. Discussion

The results of this study reveal that perceived ease of use plays an important role in driving people's intention to use QRIS in Semarang. This finding is in line with the first hypothesis and strengthens the results of research by Widyaningrum et al.

(2023) and Pratama and Nugroho (2024), which state that the easier a system is to use, the more likely users are to adopt it. In the context of QRIS, ease in accessing features, understanding how it works, and carrying out transactions digitally provides a sense of comfort and reduces psychological barriers, especially for new users. When users feel that they do not experience significant difficulties in the process of use, their confidence in making transactions increases, which ultimately encourages the intention to continue using this system.

In line with this, the perception of benefits has also been proven to be a driving factor in the intention to use. QRIS is considered capable of providing added value in the form of time efficiency, ease of transactions, and supporting a practical and modern non-cash lifestyle. These results support the theory of the Technology Acceptance Model (TAM) and are reinforced by the findings of Wahyuni and Sulistyowati (2023), Wulandari and Prasetyo (2024) and Wijaya et al. (2024) which state that the perception of the benefits of a technology, both from functional, emotional, and social aspects, can increase user motivation to adopt it. In practice, QRIS users feel that this system not only makes daily financial activities easier, but also provides a faster and more convenient transaction experience.

Meanwhile, risk perception shows a different direction from what was hypothesized. Although it was initially assumed that risk perception would decrease usage intention, the results of the study actually showed that users still showed a high desire to use QRIS despite being aware of the risks. This finding contradicts the studies of Lestari and Hidayat (2023), Fadhilah and Rizki (2024), and Indrayani and Saputra (2024), which stated that the higher the perceived risk, the lower the user's intention to use the system. In the context of Semarang, this result can be interpreted that users are accustomed to digital services or receive strong encouragement from the environment and government policies, so that concerns about risk are not strong enough to reduce usage intentions.

The study found that trust did not significantly moderate the relationship between perceived ease, benefits, and risks with usage intention. This contrasts with findings by Wulandari and Prasetyo (2024) who confirmed trust's moderating role. In Semarang's QRIS context, perceived ease and benefits are dominant, making trust less influential in strengthening these relationships. However, trust is significantly affected by perceived ease and benefits, aligning with Yusuf et al. (2024), who emphasized that systems perceived as easy and beneficial help build user trust. Positive user experiences thus play a key role in fostering trust in QRIS.

The findings reveal that risk perception does not significantly influence user trust in QRIS, indicating that concerns about potential losses or security threats do not necessarily erode trust. This result contrasts with previous studies by Ghozali, (2018), who found that high risk perceptions reduce trust levels. It is suggested that users may already accept certain risks in financial technology, diminishing their effect on trust. Additionally, trust does not significantly influence usage intention directly, despite a positive relationship direction. This contrasts with research by Rahmawati and Hidayat (2023), and Suryani and Malik (2024), which emphasize trust as a key factor in technology adoption. In Semarang, users appear more influenced by ease and benefit than trust.

6. Conclusion

This study identifies perceived ease of use and perceived usefulness as the two most influential factors driving the intention to use QRIS in Semarang. These findings reinforce the Technology Acceptance Model (TAM), illustrating that users are more inclined to adopt financial technologies like QRIS when the system is simple to operate and offers practical benefits for daily transactions. Although perceived risk was hypothesized to negatively impact usage intention, the results

show otherwise urban users familiar with digital services appear tolerant of potential risks, focusing instead on convenience and efficiency.

In terms of practical implications, the results suggest that improving user perceptions of ease and usefulness is crucial to accelerating QRIS adoption. Developers and regulators should prioritize user-friendly interfaces, emphasize real transaction benefits, and conduct broad educational campaigns. Interestingly, trust though commonly seen as a critical component in technology adoption did not play a significant role as either a direct influencer or a moderator of usage intention. This implies that in digitally literate urban populations, trust may be implicitly embedded in ease and benefit perceptions rather than functioning as a standalone factor. However, this study is not without limitations. The sample is restricted to users in the Semarang area, potentially limiting generalizability to other regions with different socio-economic or digital literacy contexts. Additionally, the cross-sectional design does not capture changes in user behavior over time, which may evolve alongside technological, regulatory, or personal experience shifts. The insignificant role of trust might also stem from respondent homogeneity or limitations in measurement instruments.

Future research should consider longitudinal and qualitative methods to explore evolving adoption behaviors and the nuanced role of trust. Expanding the model to include variables such as digital literacy, government policy perception, or social influence could offer deeper insight. These enhancements would provide a more comprehensive understanding of the QRIS adoption landscape across diverse populations.

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Data Disclosure Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.



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