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Positive Attitude of Users in Mediating the Impact of Perceived Benefits and Convenience on the Interest in Using QRIS Regularly in Daily Life

Resti Prima[1], S. Suryadi[2], Osly Usman[3]

[1,2,3] Department of Accounting, Faculty of Economics and Business, Universitas Negeri Jakarta, Jakarta, Indonesia.
Email: prima.resti@outlook.com

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ABSTRACT
Digital transformation in the financial sector encourages the use of payment systems rather than cash methods, such as QRIS (Quick Response Code Indonesian Standard). However, behavioral intentions to use QRIS routinely still face challenges, particularly regarding user perceptions and attitudes. This study aims to analyze the influence of perceived usefulness and perceived ease of use of QRIS (perceived ease of use) on the intention to use QRIS regularly (behavioral intention to use), with a positive attitude toward QRIS's benefits and ease (attitude toward using) as a mediating variable. A quantitative approach was used through a survey of 160 respondents who lived in one of the apartments in Tebet, South Jakarta, who were actively using QRIS. The analysis was carried out using SmartPLS software version 4.1.1.2 with the Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis method. The results showed that the benefits obtained and the ease of use of QRIS had a significant effect on positive attitudes and intentions to use QRIS regularly, and that positive attitudes mediated the relationship between the two. These findings reinforce the relevance of the Technology Acceptance Model (TAM) for cashless payments in urban areas.

Keywords: QRIS, Benefit Perception, Convenience Perception, Positive Attitude, Behavioral Intention, Technology Acceptance Model (TAM).

I. Introduction

QRIS was developed by Bank Indonesia in 2019 to encourage the implementation of digital financial transactions. In urban areas such as South Jakarta, the adoption of QRIS has increased rapidly in line with high internet penetration, smartphone use, and government policy support for the National Non-Cash Movement. Based on Bank Indonesia's report as of December 2024, QRIS transactions in Jakarta accounted for 34% of the national total, with the highest contribution coming from South Jakarta, which increased by 38.13% compared to the previous year (Ishlahiyah, 2025). Although QRIS offers various benefits, such as speed, efficiency, and ease of transactions, not all users regularly use it in their daily lives. An individual's decision to adopt a new technology is heavily influenced by subjective perceptions of its ease of use and benefits. In this context, the Technology Acceptance Model (TAM) developed by Davis (2013) is a relevant theoretical framework for

ISSN [Online]: 2776-6411

explaining users' behavioral intentions towards technology. The scope of variables on which the research is based is four variables, namely first, Perception of Benefits or Perceived Usefulness which in this study is abbreviated as (PU), the second is the Perception of Ease of Use or Perceived Ease of Use which in this study is abbreviated as (PEOU), the third User Attitude due to the benefits and convenience obtained or Attitude Toward Using which in this study is abbreviated as (ATU), and the fourth is the interest of users to use or Behavioral Intention to Use the next in this study is called (BIU).

Previous studies have shown that perceptions of benefits and convenience each have a significant influence on user attitudes (Sari & Bagana, 2022). Meanwhile, the study (Jati et al., 2023) proves that the perception of benefits and the perception of convenience each influence the attitude of users, and the research of (Setyawati, 2020) shows that user attitudes can mediate the influence between the perception of benefits to user interests and the perception of convenience to user interests. However, most previous studies have focused on business actors or specific demographic segments, such as the younger generation, and have not specifically examined the QRIS user population in urban areas with the highest adoption rate, such as South Jakarta. Using a quantitative approach based on Partial Least Squares - Structural Equation Modeling (PLS-SEM) with SmartPLS software version 4.1.1.2, this study analyzed data from 160 respondents living in one of the apartments in the Tebet area, South Jakarta. The findings of this study are expected to enrich the study of QRIS-based technology adoption and provide strategic recommendations for regulators and digital payment industry players.

II. Literature Review and Hypothesis Development

2.1. Technology Acceptance Model (TAM) in the Context of Digital Payments

The Technology Acceptance Model (TAM) developed by Davis (1989) remains the dominant theoretical framework for explaining the adoption of information technology. This model emphasizes two primary constructs: perceived usefulness and perceived ease of use as the main predictors of user attitudes and behavioral intentions. In the context of digital payments, recent research shows that TAM remains consistently relevant. A study by Lisana (2021) shows that perceptions of benefits and convenience significantly influence the adoption of mobile payment systems in developing countries. The same holds for research by Yan et al. (2021), who found that QR code payments are a disruptive force in retail due to their ease and interoperability. Similar findings were confirmed by Shah et al. (2022), who researched the adoption of QRIS in Indonesia and found that the two TAM constructs had a substantial influence on user behavioral intentions, with a determination coefficient of 68%. The consistency of these findings is also evident in the study by Zhao & Bacao (2021), which examines how the pandemic facilitated the adoption of mobile payments from a user's perspective. Nevertheless, some studies have identified limitations of the classical TAM model in explaining the complexity of contemporary technology adoption behaviors. The main criticism centers on the role of the often-overlooked mediation variable in the underlying model (Raza & Tursoy, 2025). This underscores the urgency of exploring the psychological mechanisms underlying the link between perceptions of technology and intentions to use.

2.2. The Role of Attitude as a Mediator in Technology Adoption

User attitudes (attitude toward using) play a crucial role as a psychological bridge between cognitive evaluation and behavioral intentions. Contemporary research confirms the function of attitude mediation in the context of financial technology. (Al-Qaysi et al., 2020) It found that positive attitudes mediated the relationship between perceptions of benefits and the intention to use digital banking services, with an indirect effect that was substantially larger than the direct effect. Consistent with these findings, an experimental study by Mulyati et al. (2023) on contactless payment users found that attitude partially mediates the effect of perceived convenience on the intention to continue use. Although empirical evidence supports the role of

ISSN [Online]: 2776-6411

attitude mediation, most previous research has been conducted in limited demographic and geographic contexts. This gap underscores the need to test mediation models in urban settings with high technological penetration, where adoption dynamics may differ fundamentally.

2.3. The Context of QRIS and Adoption in Urban Areas

QRIS, as Indonesia's national payment standard, has unique characteristics that distinguish it from other digital payment systems. Cross-platform interoperability and ease of access are key competitive advantages (Nurrokhim et al., 2025) that significantly impact consumer purchasing behavior in fintech payments (Bakhitah et al., 2023). Research in urban contexts shows diverse patterns of adoption. (Sadok & Elouaourti, 2025) identify that users in Jakarta have higher Digital Literacy but paradoxically show resistance to changes in established payment habits, even as the trend of continuous use of mobile wallets continues to increase, especially after the COVID-19 pandemic (George & Sunny, 2022). This phenomenon indicates that psychological factors, particularly attitudes, have a more complex determinant role in metropolitan areas. However, the existing literature has not comprehensively examined how user attitudes mediate the relationship between technology perception and intention for routine use in the context of QRIS in urban areas with the highest adoption rates. This research gap is the primary justification for this study.

2.4. Hypothesis Development

Based on the literature synthesis above, this study proposes seven logically structured hypotheses. Refer to the findings (Lisana, 2021) and (Shah et al., 2022), formulated:

H1: The perception of the benefits of using QRIS has a significant positive effect on user attitudes.
H2: The perception of the benefits of using QRIS has a significant positive effect on the interest in regular use.
H3: The perception of the ease of use of QRIS has a significant positive effect on user attitudes.
H4: The perception of the ease of use of QRIS has a significant positive effect on the interest in routine use.
H5: User attitudes have a significant positive effect on the interest in regular use of QRIS.

Based on the mediation framework developed by Al-Qaysi et al. (2020) and Mulyati et al. (2023), the mediation hypothesis is formulated:

H6: User attitudes mediate the influence of benefit perception on interest in regular use of QRIS.
H7: User attitudes mediate the influence of convenience perception on interest in routine use of QRIS.

These hypotheses are expected to make a theoretical contribution by strengthening TAM's external validity in the context of urban digital payments, while providing practical implications for regulators and industry players in designing more effective education and intervention strategies to increase the adoption of sustainable QRIS.

III. Research Method

3.1. Research Design and Originality

This study adopts an explanatory design with a quantitative approach, grounded in the theoretical confirmation of the Technology Acceptance Model (TAM). The originality of the research lies in three fundamental aspects. First, this study explores the mediating role of user attitudes in the context of QRIS in

ISSN [Online]: 2776-6411

Indonesia's urban areas with the highest adoption rate, explicitly filling the research gaps identified by Raza & Tursoy (2025) regarding the role of psychological variables in contemporary TAM models. Second, the geographical focus on apartment communities in Tebet, South Jakarta, provides a unique context for understanding technology adoption behavior in highly educated urban environments. Third, this study integrates simultaneous direct and indirect effects testing using the Bootstrapping robust, providing a comprehensive understanding of the dynamics of QRIS adoption (Hair et al., 2022).

The selection of QRIS as the focus of the research is based on its significance as a national payment standard launched by Bank Indonesia to support the transformation of Indonesia's digital economy. Bank Indonesia data shows that South Jakarta accounted for 38.13% of QRIS transaction growth in Jakarta (Ishlahiyah, 2025), making it an ideal locus for investigating the factors driving sustainable adoption. The theoretical significance of this study lies in the external validation of TAM in the context of contactless payment in developing countries, thereby enriching the literature on the adoption of financial technology. In practical terms, the research findings provide strategic implications for regulators in designing digital education policies and for service providers in optimizing User Experience to improve user retention.

3.2. Population and Sampling Strategy

The researcher defined the population as the entire household head occupying one of the apartments in the Tebet area of South Jakarta, totaling 320 units. Sampling technique using purposive sampling with specific inclusion criteria: (1) aged 15-55 years, (2) have a Smartphone with an active internet connection, (3) have used QRIS at least four times in the past month, and (4) have a bank account and/or digital wallet. These criteria are designed to ensure respondents have actual, relevant experience with the technology being researched, in line with recommendations (Scott, 2020) for purposive sampling based on substantive characteristics. Sample size following the minimum rule of thumb (Hair et al., 2022) for PLS-SEM analysis, which is 10 times the number of indicators that lead to dependent constructs. With 16 indicators in the research model (4 indicators × 4 variables), the minimum sample size was 160 respondents. This number also meets the criteria for Statistical power to detect mediation effects at the 95% confidence level (Usman, 2020).

3.3. Data Collection Procedure

The researcher collected primary data through field research during March-April 2024. The data collection procedure is carried out systematically through the following stages. First, the researcher obtained permission from the apartment management and socialized the research objectives through a resident communication group. Second, the researcher conducted a pilot test on 30 respondents to test the validity and reliability of the instrument before full distribution. Third, the questionnaire was distributed through two methods: online via Google Forms, shared via residents' WhatsApp and Telegram groups, and offline via live surveys in public areas of the apartment on weekends. Before filling in, respondents were given a comprehensive explanation of the purpose of the research, the guarantee of data confidentiality, and the right to withdraw at any time without consequences. Informed consent is obtained voluntarily with written or digital consent. The average time to fill out the questionnaire is 8-12 minutes. To increase the response rate, the researcher provided digital vouchers worth IDR 25,000 to the first 50 respondents who completed the survey. Of the 180 questionnaires distributed, 160 met the completeness criteria and were included in the analysis, yielding a response rate of 88.89%.

3.4. Variable Research and Operational Instruments

The research instrument was in the form of a structured questionnaire that measured four primary constructs: Perception of Benefits (PU) as the first exogenous variable, Perception of Convenience (PEOU) as

ISSN [Online]: 2776-6411

the second exogenous variable, User Attitude (ATU) as a mediator variable, and Usage Interest (BIU) as an endogenous variable. Each construct is measured using four indicators adapted from validated instruments. (Davis, 1989) Moreover, tailored to the QRIS context, resulting in 16 statement items in total. All items were measured using a five-point Likert scale, with a range of 1 (strongly disagree) to 5 (strongly agree), providing adequate response variability for parametric statistical analysis. The operationalization of the variables is presented in detail in Table 1.

Table 1. Variable Indicators

Variable	Variable Name	Code	Indicator
X1	(PU)	PU1	Using QRIS makes my transactions faster and more efficient.
		PU2	QRIS helped me complete the payment without carrying cash.
		PU3	QRIS makes it easier for me to make daily payments.
		PU4	QRIS allows me to make payments easily at various locations.
X2	(PEOU)	PEOU1	I feel comfortable using QRIS without the help of others.
		PEOU2	I find QRIS easy to learn, even when I use it for the first time.
		PEOU3	The payment process using QRIS is straightforward: scan the barcode and enter the PIN.
		PEOU4	QRIS can be used in various sources of funds, either from bank accounts or from various digital wallet applications
Y	(MORE)	TU1	I feel happy using QRIS in every transaction I have
		ATU2	Using QRIS is a wise and modern option.
		TU3	I have a positive attitude towards the use of QRIS.
		TU4	I enjoy using QRIS in my daily life.
Z	(BIU)	BIU.1	I intend to continue using QRIS in every single one of my daily transactions.
		BIU.2	I chose QRIS as my primary payment method over other methods (cash, transfer, debit).
		BIU.3	I would recommend QRIS to others because of its efficiency and ease of use.
		BIU.4	QRIS has become an important part of my daily payment habits

3.5. Data Analysis Techniques

The researcher analyzed the data using SmartPLS 4.1.1.2 and Partial Least Squares Structural Equation Modeling (PLS-SEM). The selection of PLS-SEM is based on its ability to handle complex models with latent variables and reflective indicators, as well as robustness to standard distribution assumptions. (Hair et al., 2022). The analysis process is carried out in three systematic stages, each with the following specific procedures.

Stage 1: Evaluation of the Outer Model (Measurement Model). The researcher inputs raw data in CSV format into SmartPLS and specifies the model by defining the indicator-construct relationships. Convergent validity testing using criteria Loading Factor >0.708 and Average Variance Extracted (AVE) >0.5 indicates that the indicator measures latent constructs consistently. (Hair et al., 2022). Discriminant validity is evaluated using three parameters: Heterotrait-Monotrait Ratio (HTMT) <0.85, the Fornell-Larcker criterion (the square root of AVE is greater than the correlation between constructs), and the Cross-Loading analysis (the loading indicator in the construct itself is higher than that of other constructs). Reliability tested using Composite Reliability (CR) and Cronbach's Alpha with a threshold of $0.70 < a < 0.95$. If an indicator had Loading < 0.708, the researcher gradually eliminated and re-estimated the model until it met the criteria.

Stage 2: Evaluation of the Inner Model (Structural Model). After the outer model is valid and reliable, the researcher evaluates the structural model by running the PLS algorithm using the Path Weighting Scheme and a maximum of 300 iterations. Collinearity assessment is carried out by checking the Variance Inflation

ISSN [Online]: 2776-6411

Factor (VIF) <3 to ensure that multicollinearity does not threaten the validity of the regression results. The predictive strength of the model is measured using the determination coefficient (R-square), with values of 0.75 (strong), 0.50 (moderate), and 0.25 (weak) according to Hair et al. (. The overall quality of the model (goodness of fit) was evaluated using the Standardized Root Mean Square Residual (SRMR), with a threshold of <0.08, indicating a good fit to the empirical data.

Stage 3: Hypothesis Testing. The researcher carried out the Bootstrapping procedure with 5,000 subsamples to generate a stable estimate of the standard error and test the significance of the path coefficient. The significance level was set at α=0.05 (two-tailed), with the following decision criteria: a t-statistic >1.96 indicates a significant influence, and a p-value <0.05 confirms statistical significance. Testing for the mediation effect was conducted by analyzing indirect effects using bootstrapping and the Variance Accounted For (VAF). If the VAF is >80%, full mediation occurs (Full Mediation); if 20% < VAF < 80%, partial mediation occurs (Partial Mediation); if the VAF is <20%, there is no mediation (Usman, 2020). The conceptual framework for testing the hypothesis is shown in Figure 1.

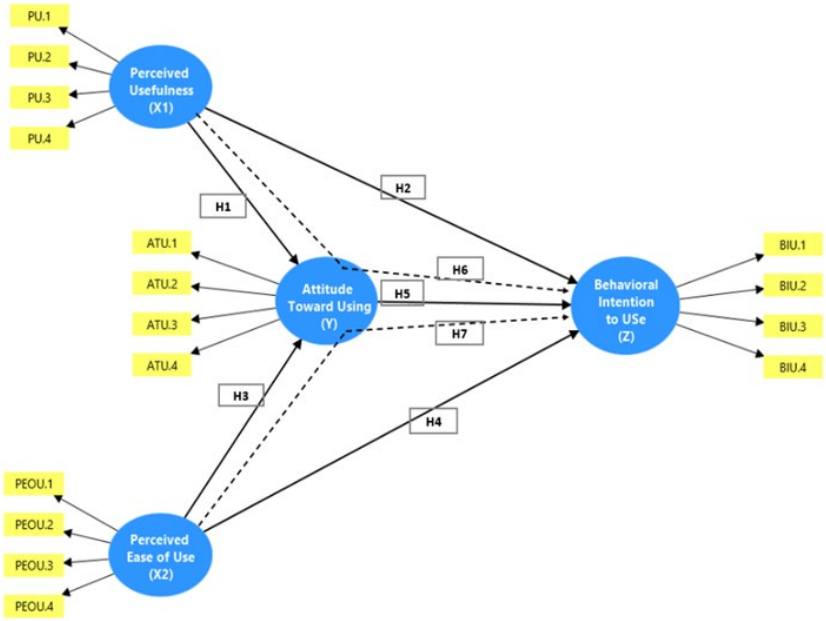

Figure 1. Conceptual Framework

Based on this conceptual framework, the researcher formulated seven research hypotheses to test the direct relationships among variables and the mediating effect of user attitudes. The relationship between benefit perception and user attitudes (H1) and usage interests (H2) is based on the TAM premise that the functional utility of technology shapes affective evaluation and behavioral intentions. Similarly, the relationships between ease of use and attitude (H3) and interest (H4) support the assumption that operational ease reduces psychological barriers to adoption. Hypothesis H5 tests the influence of attitudes on interests, confirming propositions of the Theory of Reasoned Action, which is the foundation of TAM. The mediation hypothesis (H6 and H7) explores the indirect mechanisms by which cognitive perceptions are transformed into behavioral intentions via affective evaluation, addressing the identified research gaps. (Al-Qaysi et al., 2020). All hypotheses are summarized in Table 2.

Table 2. Research Hypothesis

No	Research Hypothesis
1	Perceptions of the benefits of using the QRIS (X1) system have a significant positive effect on User Attitude toward the QRIS (Y) system.
2	The Benefits of Use obtained from the QRIS (X1) system have a significant positive effect on the User's interest in using the QRIS (Z) system.

ISSN [Online]: 2776-6411

No	Research Hypothesis
3	The perception of ease of use of the QRIS (X2) system has a significant positive effect on User Attitudes, as indicated by the ease of use of the QRIS (Y) system.
4	Perception of Ease of Use of the QRIS (X2) system has a significant positive effect on the User's Interest in using the QRIS (Z) system.
5	The User's attitude toward the ease of use of the QRIS (Y) system has a significant positive effect on the User's interest in using the QRIS (Z) system.
6	The User's Attitude, as measured by the ease of use of the QRIS (Y) system, mediates the influence of the Perception of Usage Benefits obtained from the QRIS (X1) system on the User's Interest in using the QRIS (Z) system.
7	The User's Attitude, as measured by the ease of use of the QRIS (Y) system, mediates the influence of the Perception of the Ease of Use of the QRIS (X2) on the User's Interest in using the QRIS (Z) system.

3.6. Validity and Reliability Assessment

The validity and reliability of the instrument are fundamental prerequisites for accurate measurement of the latent construct. Convergent validity indicates that indicators within a single construct are highly correlated and measure the same concept. A Criteria Loading Factor > 0.708 indicates that the latent construct explains at least 50% of the indicator's variance. In contrast, AVE > 0.5 indicates that the construct explains more than half of the variance in its indicators in aggregate (Hair et al., 2022). If an indicator has Loading <0.708 but >0.40, the researcher considered elimination only if it substantially increased the AVE and CR construct.

Discriminant validity ensures that the constructs in the model differ conceptually and empirically. The HTMT criterion (<0.85) is considered more conservative and robust than the traditional Fornell-Larcker criterion, especially for small samples (Usman, 2020). If the HTMT value is close to or exceeds 0.85, the researcher conducts a confirmatory factor analysis to assess whether there is conceptual overlap among constructs. Analysis Cross-Loading provides additional confirmation by ensuring that each indicator has the strongest correlation with the construct it is intended to measure. Reliability measures the internal consistency of the instrument, indicating that respondents provide stable answers to questions that measure the same construct. Cronbach's Alpha assesses reliability based on item correlations, while CR provides more accurate estimates by accounting for item loadings (Hair et al., 2022). A lower threshold of 0.70 ensures minimal reliability. At the same time, an upper limit of 0.95 prevents item redundancy, indicating that the indicators measure identical aspects of the construct rather than different dimensions that contribute to the same latent concept.

The overall methodological procedure is designed to ensure scientific rigor and replicability of research, in line with contemporary quantitative research standards in the field of information systems and consumer behavior (Sugiyono, 2020; Usman & Marsofiyati, 2019). This systematic approach enables researchers to draw valid conclusions about the dynamics of QRIS adoption and to provide evidence-based recommendations for relevant stakeholders.

IV. Results and Discussion

4.1. Analysis Result

The profiles of respondents who have used QRIS at least 4 times in the last 1 month, have a smartphone connected to the internet, and are between 15 and 55 years old are described in Table 3.

Table 3. Respondent Profile

No	Aspects	No	Remarks	Quantity	Percentage
1	Use of QRIS	1	1 – 2 years	60	37,50%
		2	6 months – 1 year	21	13,13%
		3	Less than 6 months	11	6,88%
		4	More than 2 years	68	42,50%

GOLDEN RATIO
ISSN [Online]: 2776-6411

No	Aspects	No	Remarks	Quantity	Percentage
2	Gender	1	Male	80	50,00%
		2	Women	80	50,00%
3	Age	1	15 to 25 Years	44	27,50%
		2	26 to 35 Years	74	46,25%
		3	36 to 45 Years	35	21,88%
		4	46 to 55 Years	7	4,38%
4	Education	1	Diploma (D1–D3)	19	11,88%
		2	Postgraduate (S2/S3)	6	3,75%
		3	Bachelor (S1)	105	65,63%
		4	High School / Equivalent	30	18,75%
5	Jobs	1	Freelance / Part-Time / Odd Jobs	15	9,38%
		2	Civil Servant	29	18,13%
		3	Private Employees	60	37,50%
		4	Student / Student	24	15,00%
		5	Not Working	8	5,00%
		6	Entrepreneurship	24	15,00%
8	QRIS Usage Areas	1	Work or business area	77	48,13%
		2	Entertainment and shopping areas include restaurants/cafes, shopping malls, leisure venues, and more	37	23,13%
		3	School/study area	6	3,75%
		4	Residential areas, including grocery stalls/minimarkets, cafes around apartments, laundry	40	25,00%
9	Source of Funds for the Use of QRIS	1	Digital Wallet Balance (For example: GoPay, Shoppe Pay, DANA, OVO, and others)	52	32,50%
		2	Bank Account Balance	108	67,50%

Based on Table 3, the majority of respondents are 26-35 years old (52.5%), and the Bachelor S1 education level is 65.6%. This indicates that respondents are highly educated, drawn from a generation already literate in digital technology, so the potential for positive attitudes towards using digital technology, including making payments, is relatively high. Furthermore, the majority of respondents are employees (private and civil servants) or entrepreneurs, with 67.5% and 48.1%, respectively, reporting a tendency to use QRIS at the time or place they work or at their place of business. This can also indicate that individuals with a fixed income use QRIS to access benefits in their daily lives. Another equally important piece of information is that they have used QRIS for 42.5% over 2 years, and 37.50% among users with 1-2 years of experience. This indicates that respondents have generally felt the benefits and ease of use of QRIS for quite some time, so the potential for positive attitudes toward use can affect long-term interest in continued use. This is in accordance with the Technology Acceptance Model (TAM), which posits that long-term experience has great potential to form a more stable, positive attitude.

However, most respondents (67.5%) use QRIS with bank account funding rather than digital wallets. This indicates that QRIS usage behavior is still influenced by transaction habits through banking accounts, even though it does not require many steps, such as transferring funds from ATMs, m-banking, or internet banking. Therefore, the perception of benefits and convenience does not entirely stem from the QRIS innovation itself as a means of payment integrated with non-bank account sources of funds, but rather from users' comfort with the existing bank system. Thus, it can be reaffirmed that the importance of education and campaigns that emphasize the advantages of QRIS extends beyond serving as innovations for making payments in certain areas or destinations to an independent, flexible, and efficient system. Based on the outline of user profile information derived from the questionnaire results, this confirms that the formation of a positive User Attitude is a crucial element in bridging the Perception of Benefits and the Perception of Convenience to User Interests.

The results of the convergent validity test showed AVE values ≥ 0.5 and loading factor values> 0.708 for all indicators, as detailed in Table 4. The AVE and loading factors indicate that the variables of benefit

GOLDEN RATIO
ISSN [Online]: 2776-6411

perception (PU), convenience perception (PEOU), user attitude (ATU), and use interest (BIU) are reflected in the indicators or statements used. This shows that the research data is feasible and can be continued as research data.

The discriminatory validity test of this study used 3 parameters: Heterotrait-Monotrait Ratio (HTMT), Forner-Larcker, and Cross-Loading. The Heterotrait-Monotrait (HTMT) results showed that all coefficient values were < 0.85. The results of the discriminant validity test are broken down in table 5, which can be concluded that the variables of benefit perception (PU), convenience perception (PEOU), user attitude (ATU), and use interest (BIU) used in the research model differ from one variable to another, so that the research can be continued using the data that has been obtained.

Table 4. Convergent Validity Test Results

Variable Type	Variable	Indicator Code	Loading Factor	AVE
X1	(PU)	PU1	0,891	0,766
		PU2	0,887	
		PU3	0,853	
		PU4	0,870	
X2	(PEOU)	PEOU1	0,882	0,788
		PEOU2	0,888	
		PEOU3	0,883	
		PEOU4	0,897	
Y	(MORE)	TU1	0,889	0,740
		ATU2	0,836	
		TU3	0,866	
		TU4	0,850	
Z	(BIU)	BIU.1	0,874	0,759
		BIU.2	0,857	
		BIU.3	0,865	
		BIU.4	0,889	

Table 5. Heterotrait-monotrait ratio (HTMT) test results

Variable	ATU (Y)	PEOU (X2)	PU (X1)	BIU (W)
ATU (Y)				
PEOU (X2)	0,703			
PU (X1)	0,717	0,576		
BIU (W)	0,819	0,795	0,822	

The results of the Cross Loading test are described in table 6, providing information that each indicator on the variables of benefit perception (PU), convenience perception (PEOU), user attitude (ATU), and use interest (BIU) has the highest correlation coefficient in each of its own variables, compared to other variables, there is no overlap between variables, and the data can be used as research data.

Table 6. Cross Loading Test Results

Indicator	(MORE)	(BIU)	(PEOU)	(PU)
AND.1	**0,889**	0,685	0,602	0,602
TO.2	**0,836**	0,575	0,513	0,519
ETC.3	**0,866**	0,635	0,553	0,523
ETC.4	**0,850**	0,614	0,502	0,557
BIU.1	0,587	**0,874**	0,618	0,612
BIU.2	0,676	**0,857**	0,588	0,676
BIU.3	0,620	**0,865**	0,612	0,637
BIU.4	0,661	**0,889**	0,686	0,648
PEOU.1	0,595	0,664	**0,882**	0,515
PEOU.2	0,537	0,627	**0,888**	0,430

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Indicator	(MORE)	(BIU)	(PEOU)	(PU)
BUT.3	0,574	0,596	**0,883**	0,441
PEOU.4	0,537	0,663	**0,897**	0,470
PU.1	0,598	0,691	0,544	**0,891**
PU.2	0,570	0,654	0,423	**0,887**
PU.3	0,533	0,628	0,447	**0,853**
PU.4	0,540	0,609	0,413	**0,870**

The results of the Forner-Larcker test are shown in Table 7, which indicates that each variable shares more variance with its own indicators than with the others, suggesting that the variables used in the model are unique and distinguishable from one another. The results of the reliability test showed that the value of Cronbach's Alpha > 0.70 < 0.95 and the value of Composite Reliability > 0.70 < 0.95 and with the distribution of values can be seen in table 8. where the test results show that the indicators used in the benefit perception variable obtained from the use of QRIS (PU) and the QRIS system convenience perception variable (PEOU) can measure both variables well. The attitude of QRIS users (ATU) can be measured consistently, and interest in using the QRIS (BIU) system as an output can also be inferred from the statement items used. Hence, the research data is reliable and can be used.

Table 7. Forner-Larcker test results

Variable	ATU (Y)	PEOU (X2)	PU (X1)	BIU (W)
ATU (Y)	**0,860**			
PEOU (X2)	0,632	**0,888**		
PU (X1)	0,641	0,524	**0,875**	
BIU (W)	0,731	0,719	0,739	**0,871**

Table 8. Reliability Test Results

Variable	Composite reliability (rho_c)	Cronbach's alpha
PU (X1)	0,929	0,898
PEOU (X2)	0,937	0,910
ATU (Y)	0,919	0,883
BIU (W)	0,927	0,894

Based on the test (outer model) and questionnaire results from 160 respondents, as described in tables 4 to 8, it can be concluded that the data are suitable for use as research data. The results of the R-Square Test in Table 9 indicate that the value at (ATU) is 0.526, suggesting that the research model is sufficient to describe QRIS system users' attitudes towards QRIS technology. Meanwhile, the (BIU) of 0.729 indicates that the research model has strong predictive power for User Interest (BIU) and explains most of the variation in users' intentions to continue using QRIS.

Table 9. R-Square Test Results

No	Variable	R-square	R-square adjusted
1	OTHER	0,532	0,526
2	BIU	0,729	0,724

The results of the Variance Inflation Factor (VIF) test (Table 10) were carried out after the validity test. The reliability of the research indicator data was found to be in the range of >1 and <3, confirming that there was no significant multicollinearity among the exogenous variables of benefit perception (PU), convenience perception (PEOU), and User Attitude (ATU) in the regression model. Thus, the data can be used to examine further one-way or non-one-way effects, as well as the degree of significance of the influence of exogenous variables on endogenous variables.

GOLDEN RATIO
ISSN [Online]: 2776-6411

Table 10. VIF Test

Yes	Relationships between variables	VIF Value
1	ATU (Y) -> BIU (Z)	2.136
2	PEOU (X2) -> ATU (Y)	1.378
3	PEOU (X2) -> BIU (W)	1.736
4	PU (X1) -> ATU (Y)	1.378
5	PU (X1) -> BIU (Z)	1.767

The results of the Fit Test are shown in Table 11, with a Standardized Root Mean Square Residual (SRMR) value of 0.049. This confirms that the model comprising benefit perception (PU), convenience perception (PEOU), user attitude (ATU), and user interest (BIU) accurately represents the relationships among these variables. Therefore, the research model is feasible for further testing of the relationships and influences among the variables studied.

Table 11. Model Fit Test Results (SRMR)

Parameters	Saturated model	Estimated model
Standardized Root Mean Square Residual (SRMR)	0,049	0,049

The results of the Path Coefficient test, calculated using Bootstrapping with a 5% significance level, are presented in Table 13. All t-statistical test results were above the 1.96% critical t-value. This explains that all the relationships among the variables in the research model are positive and mutually influential. Meanwhile, the p-value test showed a value of < 0.05, indicating that all influences are significant.

Table 12. Path Coefficient Test Results (t-statistic and p-value)

No	Variable	P values	T statistics (|O/STDEV|)
1	THE > OUT	0,000	6,236
2	PU -> BIU	0,000	6,714
3	THE > OUT	0,000	5,427
4	PEOU -> BIU	0,000	5,481
5	TO > BIU	0,001	3,246
6	PU -> TO -> BIU	0,018	2,361
7	PEOU -> TO -> BIU	0,015	2,445

Hypothesis Test. Based on the results of the path coefficient test in Table 12, all research hypotheses in Table 1 are supported and are influential and significant. The details of the hypothesis results are presented in Table 13.

Table 13. Hypothesis Test Results

No	Research Hypothesis	Test Results
1	Perceptions of the benefits of using the QRIS (X1) system have a significant positive effect on User Attitude toward the QRIS (Y) system.	Accepted
2	The Benefits of Use obtained from the QRIS (X1) system have a significant positive effect on the User's interest in using the QRIS (Z) system.	Accepted
3	The perception of ease of use of the QRIS (X2) system has a significant positive effect on User Attitudes, as indicated by the ease of use of the QRIS (Y) system.	Accepted
4	Perception of Ease of Use of the QRIS (X2) system has a significant positive effect on the User's Interest in using the QRIS (Z) system.	Accepted
5	The User's attitude toward the ease of use of the QRIS (Y) system has a significant positive effect on the User's interest in using the QRIS (Z) system.	Accepted
6	The User's Attitude, as measured by the ease of use of the QRIS (Y) system, mediates the influence of the Perception of Usage Benefits obtained from the QRIS (X1) system on the User's Interest in using the QRIS (Z) system.	Accepted
7	The User's Attitude, as measured by the ease of use of the QRIS (Y) system, mediates the influence of the Perception of the Ease of Use of the QRIS (X2) on the User's Interest in using the QRIS (Z) system.	Accepted

ISSN [Online]: 2776-6411

4.2. Discussion

4.2.1. The Effect of Perception of Benefits on User Attitudes and Interests

The findings of the study confirm that the perception of benefits (perceived usefulness) has a significant effect on consumer attitudes (H1: t=6.236; p<0.001) and interest in using QRIS (H2: t=6.714; p<0.001). These results are consistent with research. (Lisana, 2021) that finds that the functional utility of the mobile payment system is a strong predictor of adoption in developing countries. Similar findings were also obtained. (Lolowang et al., 2024) Among MSMEs that use QRIS, perceptions of benefits have been shown to affect interest in continued use significantly. However, the PU→BIU pathway coefficient (0.739) was higher than that reported in the study. (Shah et al., 2022) indicates that Jakarta urban users have a stronger pragmatic orientation in technology adoption decisions. A similar pattern was found by (Gaur et al., 2025) In evaluating the adoption of digital payments in India, using the TAM model. These findings broaden the understanding of TAM by showing that in the context of metropolitan areas with high technology penetration, tangible benefits such as time efficiency and transaction flexibility are the main determinants of positive attitudes and behavioral intentions. An in-depth analysis of respondent profiles reveals important nuances about the most influential benefit dimensions. Respondents with permanent jobs (37.5% private employees, 18.13% civil servants) showed a high appreciation for QRIS time efficiency in daily transactions in the work area (48.13%). This indicates that perceptions of benefits are not monolithic but are context-specific. These findings enrich the literature by showing that perceived usefulness in the Fintech ecosystem is situational and tied to use cases relevant to Lifestyle users.

Interestingly, even though 42.5% of respondents have been using QRIS for more than 2 years, perceptions of benefits remain a significant predictor of attitudes and interests. This phenomenon differs from the assumption of technology habituation theory, which predicts that, over time, the influence of benefits will decrease as technology becomes routine. An alternative explanation is that the Indonesian QRIS ecosystem is undergoing continuous evolution, with the addition of merchant touchpoints and the integration of new services, creating a dynamic, continuously updated perceived usefulness. These findings contribute to the understanding that in technologies with continuous innovation, functional benefits retain strong longitudinal relevance, distinguishing them from static technologies with conventional adoption curves. The practical implication of these findings is that service providers' communication strategies should emphasize concrete value propositions tailored to user segments. For urban professionals, focusing on time-saving benefits and the ease of multi-location transactions is key. User education should use a scenario-based approach that demonstrates how QRIS addresses specific pain points in daily life, rather than simply promoting generic technological features.

4.2.2. The Effect of Perception of Convenience on Consumer Attitudes and Interests

Perceived convenience (perceived ease of use) was found to have a significant effect on consumer attitudes (H3: t=5.427; p<0.001) and interest in use (H4: t=5.481; p<0.001). In contrast to the findings (Mulyati et al., 2023) which found that the influence of PEOU was stronger among early adopters, the study showed a substantial influence of PEOU even among experienced users (42.5% had used it for >2 years). This aligns with the integrated framework developed. (Thanigan et al., 2025) which emphasizes the importance of ease in the sustainable use of digital payments. This phenomenon can be explained through the lens of cognitive load theory: QRIS's ease of use reduces cognitive burden during transactions, creating a repeatable, positive experience that reinforces a favorable attitude. These findings contribute to the literature by demonstrating that, in a competitive digital payments ecosystem, interface simplicity remains a crucial factor for long-term user retention. (Raza & Tursoy, 2025).

ISSN [Online]: 2776-6411

4.2.3. The Role of User Attitude Mediation

Consumer attitudes partially mediate the relationships between perceptions of benefits and interest in consumption (H6: t=2.361; p=0.018) and between perceptions of convenience and interest in consumption (H7: t=2.445; p=0.015). This result confirms the proposition. (Al-Qaysi et al., 2020) Attitudes function as psychological mechanisms that transform cognitive evaluations into behavioral intentions. The crucial role of this attitude is also emphasized by Conner and Norman (2022), who explain that attitude strength helps bridge the gap between intentions and actual behavior. The R-square values for ATU (0.526) and BIU (0.729) indicate that the model has moderate to strong predictive power. An in-depth analysis revealed that the mediating effect was stronger on the PEOU→ATU→BIU pathway than on the PU→ATU→BIU pathway, indicating that ease of use was more effective in fostering a sustained positive attitude. The theoretical contribution of this research lies in the empirical validation of the central role of attitudes in contemporary TAM models for technology Fintech.

4.2.4. Implications for Stakeholders

Implications for Regulators (Bank Indonesia). The findings provide empirical justification for policies that prioritize benefit-oriented education and user-experience simulation. Bank Indonesia needs to develop a communication campaign that emphasizes QRIS's value proposition, including efficiency, security, and interoperability. Digital literacy programs should be designed to create hands-on experiences that foster a positive attitude by demonstrating ease of use. Data shows that 67.5% of respondents still use bank accounts as a source of funds, underscoring the need for incentives to encourage the adoption of more integrated digital wallets within the QRIS ecosystem—implications for Service Providers. The results indicate that digital payment service providers should focus on two primary strategies. First, optimize the user interface to maximize ease of use, including simplifying the onboarding process, providing interactive tutorials, and implementing intuitive error recovery features. Second, clear value proposition communication through in-app messaging and contextual notifications that educate users about the specific benefits of QRIS in everyday use scenarios. Given that user attitudes mediate the influence of perceptions on interests, service providers should implement customer engagement programs that foster emotional attachment, such as loyalty rewards and personalized transaction experiences—implications for Users. The study's findings provide validation that adopting QRIS provides tangible benefits in daily life. Users are advised to actively explore QRIS features, especially cross-platform interoperability, which enables greater flexibility in funding sources. Self-education about digital transaction security (digital security literacy) will strengthen positive attitudes and reduce psychological resistance. To maximize benefits, users need to integrate QRIS across various life contexts, not only work areas but also personal and leisure activities, creating a sustainable habit.

4.2.5. Contradictions with Previous Research

The findings of this study differ from some previous studies and warrant further exploration. First, research (Sadok & Elouaourti, 2025) found high resistance to changes in payment habits in Jakarta, despite high levels of Digital Literacy. The study found a different phenomenon: respondents with> 2 years of QRIS experience showed a very positive attitude (R-square ATU=0.526), indicating that resistance is temporary and can be overcome through sustained positive experiences. An alternative explanation is that resistance occurs in the initial adoption phase. However, after crossing the Trial Threshold, users experience a lock-in effect due to the comfort they gain. Second, in contrast to Mulyati et al. (2023), who found that PEOU had only an effect on early adoption, this study showed that PEOU remained significant even among experienced users. This difference can be explained by contextual factors: Indonesia's highly competitive digital payments ecosystem creates continuous pressure to prioritize ease of use as a differentiator. An alternative explanation is that the complexity of the QRIS ecosystem, with multiple Touchpoints (various São merchants, scenarios), keeps

ISSN [Online]: 2776-6411

convenience relevant throughout the User Journey. These findings enrich the literature by showing that, in the context of rapidly evolving technologies, the convenience factor has greater longitudinal relevance than the predictions of classical TAM models.

4.2.6. Research Limitations and Future Research Directions

This study has several limitations that affect the generalization of the findings. First, the geographical coverage is limited to apartment residents in Tebet, South Jakarta, a representation of the highly educated urban segment with optimal access to technology. Generalization to semi-urban or rural areas with limited digital infrastructure requires caution. These limitations affect external validity, given significant differences in demographic characteristics and Digital Readiness across regions of Indonesia. Further research needs to conduct multi-location comparative studies to test the robustness of the TAM model in the context of socio-economic heterogeneity. Second, the Cross-sectional approach provides a snapshot of behavior at a single point in time and cannot capture the dynamics of attitude and behavior change. Longitudinal studies are needed to determine whether interest in using QRIS persists as a permanent habit or decays as alternative payment technologies emerge. Third, the exclusive focus on TAM constructs ignores potential external variables, such as Trust, perceived risk, Social Influence, and facilitating conditions, which are relevant in the context of Fintech. (Nurrokhim et al., 2025). Future research models need to integrate UTAUT (Unified Theory of Acceptance and Use of Technology) to capture the complexity of more comprehensive technology adoption. Fourth, self-report data through questionnaires is vulnerable to Social desirability bias and Common Method Variance. Although researchers have implemented anonymity and informed consent to mitigate bias, triangulating with actual behavioral data (transaction logs, Usage Frequency) will strengthen the validity of the findings. Future research is suggested using mixed methods (mixed-methods): quantitative to test causal and qualitative relationships to explore the subjective experience of users in depth, providing Rich contextual understanding about the factors that shape attitudes and interests in the use of QRIS in the daily lives of Indonesian urban people.

V. Conclusion

This study confirms the validity of the Technology Acceptance Model (TAM) in the context of QRIS adoption in urban areas of Jakarta. Analysis of 160 respondents showed that perceptions of benefits and convenience significantly affected user attitudes and interest in using QRIS, with user attitudes functioning as partial mediators that translated cognitive evaluation into behavioral intentions. The model's predictive power (R-square, BIU=0.729) indicates that the TAM construct explains 72.9% of the variance in continuous use. The theoretical implications of this study enrich the literature on technology adoption by validating the central role of attitudes as a psychological mechanism in the urban fintech ecosystem. In practical terms, the findings provide strategic direction for Bank Indonesia to develop experiential learning programs that build positive attitudes by demonstrating concrete benefits and operational convenience. Service providers need to optimize the user interface and implement contextual value proposition communication to strengthen favorable attitudes and user retention. The study's main limitations include limited geographic coverage and a cross-sectional design that does not capture temporal dynamics. The following study is recommended to adopt a multi-location, longitudinal design, integrating external variables (trust, risk, social influence) to test the model's robustness in the context of Indonesia's socio-economic heterogeneity, and to use mixed methods to explore users' subjective experiences in depth.

The findings of the study provide empirical evidence that the adoption of digital payment technology in Indonesia is not only determined by infrastructure availability but, more fundamentally, by users' perceptions of the system's utility and usability. The dominance of bank accounts (67.5%) over digital wallets as a source of QRIS funds reveals the paradox of adoption: users adopt new technologies while not entirely abandoning old habits. This phenomenon indicates that transforming digital financial behavior requires a

ISSN [Online]: 2776-6411

holistic approach that integrates education, incentives, and sustainable ecosystem improvements. The main contribution of this research lies in three aspects. First, it validates the relevance of TAM in the context of Indonesian fintech with a strong coefficient of determination. Second, identify the crucial role of attitudes as a bridge between perception and behavior, providing actionable insights for psychological interventions; third, provide baseline data on the characteristics of urban QRIS users to serve as a reference for regional comparative studies. Policy recommendations include developing a more inclusive QRIS ecosystem by expanding merchant acceptance, increasing digital literacy through storytelling-based multimedia campaigns, and creating incentive schemes that encourage migration from cash to digital transactions. A tripartite collaboration among regulators, industry, and user communities is key to realizing Indonesia's vision of becoming a leading digital economy in Southeast Asia by 2030.

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