

The effect of attitude and subjective norm on intention to use and behavior to use QRIS with moderation of digital literacy of UNS students



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ABSTRACT

This study investigates the influence of attitude and subjective norm on the intention to use and actual usage behaviour of QRIS, with digital literacy serving as a moderating variable among students at Sebelas Maret University. Grounded in behavioural intention and technology adoption perspectives, the research seeks to understand the factors shaping students' adoption of digital payment systems within the rapidly expanding cashless economy in Indonesia. Employing a quantitative descriptive research design, primary data were collected through structured questionnaires distributed via Google Forms using a four-point Likert scale. The study involved 385 active university students from the 2025/2026 academic year who had prior experience using QRIS. Data analysis was conducted using Structural Equation Modeling (SEM) with SmartPLS. The findings demonstrate that attitude exerts a positive and significant influence on students' intention to use QRIS, indicating that favourable perceptions toward digital payment systems increase adoption intention. Subjective norm was also found to positively and significantly influence intention to use, suggesting that social influence and peer recommendations play an important role in shaping technology adoption behaviour among students. Furthermore, intention to use significantly affects actual QRIS usage behaviour, confirming the importance of behavioural intention as a predictor of digital payment utilisation. The study also reveals that digital literacy significantly strengthens the relationship between intention to use and actual usage behaviour, highlighting the critical role of digital competencies in facilitating effective adoption of financial technology services. These findings contribute to the growing literature on digital payment adoption, financial technology behaviour, and digital literacy within higher education contexts in emerging economies.

Keywords: Attitude; Subjective Norm; Intention to Use; Behavior to Use;
Theory of Reasoned Action (TRA); Digital Literacy ; QRIS



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INTRODUCTION

The rise of the digital economy has made it easy for people to place orders and make payments simply by accessing the internet, making transactions more cost and time efficient (Wulandari, 2024). This poses a challenge for Indonesia to continue innovating in supporting the development of the digital economy through the use of digital technology in payment systems. Therefore, based on Peraturan Anggota Dewan Gubernur Nomor 21/18/PADG/2019 tentang Implementasi Standar Nasional *Quick Response Code* untuk Pembayaran, to realize the vision of the Indonesian Payment System 2025, Bank Indonesia has innovated and established the National QR Code Standard (QRIS), which utilizes QR codes for payments. The Quick Response Code Indonesian Standard (QRIS) is a QR code standard used to simplify payment transactions in Indonesia.

According to the Asosiasi Sistem Pembayaran Indonesia (ASPI, 2024), QRIS statistics demonstrates that the number of merchants has increased to 34 million and the number of QRIS users has increased to 53 million. This shows a positive trend that continues to grow from the previous year, with QRIS users in 2023 only reaching 46 million and merchants reaching 30 million. Additionally, the volume of QRIS transactions in 2024 has increased by 202% year-over-year compared to the 2023 period. This means that QRIS growth continues to expand rapidly to this day.

The widespread use of QRIS must be balanced with digital literacy among its users (Puspita and Solikah, as cited in Nurdien & Galuh, 2023). Rahyana and Abrianto (2024) explain that the negative impacts of QRIS usage can lead to criminal activities such as QR code phishing (quishing), where scammers can easily exploit QR codes to redirect users to fake websites, resulting in the depletion of account balances. These negative issues can be addressed by improving the digital literacy of the public to prevent them from falling victim to digital crimes during transactions (Rahyana & Abrianto, 2024). Human resources (HR) are the key and main actors in developing the digital economy ecosystem (Samento et al., 2024). HR with high digital literacy will optimally utilize technology in their daily lives, such as getting used to a cashless lifestyle by implementing alternative payment methods, including QRIS, thereby driving the transformation to a digital economy ecosystem (Farhan & Shifa, 2023).

According to data from Kantor Perwakilan Bank Indonesia Kota Solo, the Solo region has seen a steady increase in the number of QRIS merchants. Surakarta is the city with the largest number of QRIS merchants in the Greater Solo region, contributing 26% of the 358,410 QRIS merchants in the Solo region (Pratama, 2023). In addition to merchants, consumers are also key stakeholders in the implementation of QRIS usage, as their role and enthusiasm can accelerate the adoption of this technology, ultimately driving the development of Indonesia's digital economy (Yonata, 2024).

According to the Badan Pusat Statistik Kota Surakarta (BPS, 2024), Surakarta City is dominated by Generation Z residents in 2024. According to the Visa Consumer Payment Attitudes Study (VISA, 2024), the Gen Z segment is the largest contributor to cashless behavior or cashless lifestyles in Indonesia at 76%, compared to other generations, such as Generation Y at 69%.

Students are a group that is more exposed to technology compared to other Gen Z groups, so they are more easily and quickly able to keep up with technological developments. Therefore, In Indonesia, students have a lot of potential to be trailblazers and catalysts in the implementation of QRIS (Lau & Kulsum, 2023). Based on preliminary observation data collected by researchers, 94.1% of 51 active students from various batches at Sebelas Maret University stated that they had used and still use QRIS for

transactions. However, only 37.3% of respondents stated that they use QRIS more often, while 62.7% stated that they use cash more often. This indicates that, on average, students are already familiar with and have tried using QRIS in their transactions, but many students have not yet adopted a digital payment culture within the digital economy ecosystem, as a significant number of students still prefer to use cash for transactions despite being familiar with QRIS.

The data also highlights several factors influencing students' use of QRIS, including approximately 70% who feel QRIS simplifies and speeds up transactions, 74% who find it practical and efficient, rarely experience transaction errors, 13.7% because they are influenced by their surroundings, such as friends and family, 9.8% because they are aware of the characteristics of the QRIS payment system, such as following the policies of the payment app they use, and 17.6% because they are accustomed to and prefer a cashless lifestyle.

Meanwhile, those who do not use QRIS give reasons such as rarely using digital payments due to fears of losing their balance and being wasteful. This indicates that students still lack understanding of digital safety in the use of digital payments, including QRIS. Therefore, students at Sebelas Maret University are suitable and potential subjects for research, as their characteristics align with the research objectives.

This behavioral phenomenon can be explained by the Theory of Reasoned Action (TRA), which states that a person's actual behavior is determined by their behavioral intention, which is predicted by their attitudes and subjective norms (Nickerson, 2023). Relevant research has been conducted previously by Panjaitan et al. (2023) which shows that there is a positive influence between attitudes and subjective norms on technology usage behavior. Additionally, digital literacy plays a significant role about the use of QRIS by students at Sebelas Maret University. The higher the digital literacy, the more efficiently the intensity of digital technology use increases (Panjaitan et al., 2023). According to the research findings of Ezeudoka and Fan (2024), digital literacy can moderate the relationship between intention to use and actual behavior. The higher the level of digital literacy, the stronger the relationship between intention to use and behavior to use e-pharmacy in South Africa.

Therefore, this study aims to examine the influence of Attitude and Subjective Norm on Intention to Use and Behavior to Use, moderated by Digital Literacy among students at Sebelas Maret University.

LITERATURE REVIEW, RESEARCH FRAMEWORK, AND HYPOTHESES

The Theory of Reasoned Action was first proposed by psychologists Fishbein and Ajzen in 1975 (Nickerson, 2023). According to the Theory of Reasoned Action (TRA), an individual's behavioral intention is influenced by attitude and subjective evaluation. This intention ultimately contributes to and leads to the individual's actual behavior (Nickerson, 2023).

Attitude is an individual's stance based on positive or negative evaluations of a behavior. An individual's attitude toward a behavior is a function of their beliefs about whether the behavior will produce the outcomes they desire (Nickerson, 2023). These beliefs are subjective, based on the individual's perceptions or views (Panjaitan et al., 2023). Attitude indicators include the idea of using, attractiveness of use, and comfort when using (Rohman et al., 2023).

Subjective Norm is a function of normative beliefs and motivation to comply (Nickerson, 2023). Normative beliefs relate to beliefs about the opinions of others and the motivation to comply with those beliefs (Nickerson, 2023). Subjective Norm is an

individual's perception or belief regarding the social pressure felt to do what important people in their environment do. These important people can be friends, partners, family, and others (Nickerson, 2023). Indicators of Subjective Norms include following family recommendations, following peer recommendations, following social environment recommendations, and following teacher or professor recommendations (Usman et al., 2025).

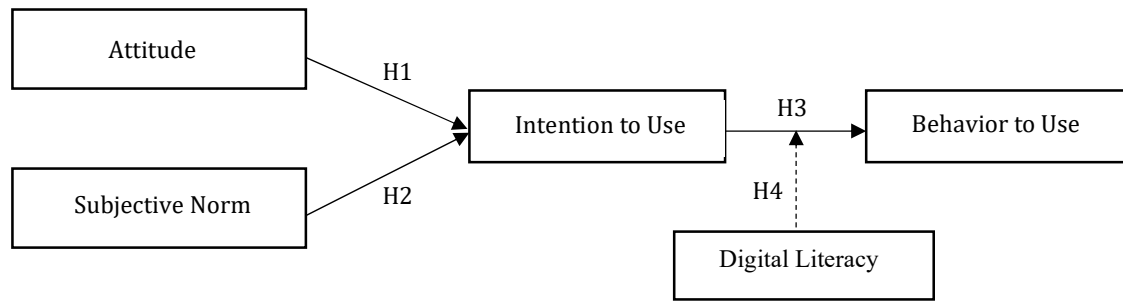
Intention to Use is an individual's readiness before performing a behavior (Nickerson, 2023). It describes the extent to which a person thinks they will perform a certain behavior (Nickerson, 2023). Indicators of Intention to Use include the intend to use QRIS in the future, if given the opportunity expect to use QRIS in the future, and will use QRIS in the future (Usman et al., 2025).

Behavior to Use is defined as a description of the extent of intensity or frequency of technology use by an individual (Venkatesh et al., 2003). Actual behavior is the actual use of a system as measured by the intensity or frequency of its use (Rohman et al., 2023). Indicators of behavior to use include regularity in usage, frequency of usage, and usage to solve problems (Usman, et al., 2025).

Digital Literacy is an individual's ability to plan, execute, and evaluate digital actions in solving their daily life (Nguyen et al., 2024). Individuals with good digital literacy will understand technology and be able to make smart decisions so that they can use technology efficiently (Panjaitan et al., 2023). The pillars of digital literacy used as indicators in the survey of Indonesia's digital literacy status are based on the G20 Toolkit for Measuring Digital Skills and digital Literacy: Framework and Approach which includes digital skill, digital ethics, digital safety and digital culture (Kominfo, 2022).

Research Framework

Research framework in this study is as follows:



Description:

Direct: —> Moderating: -.->

Source: Rohman, et al., 2023; Usman, et al., 2025; Kominfo, 2022

Figure 1
Research Framework

Hypotheses

Someone who considers a behavior to be beneficial, convenient, and in line with their desired outcomes will develop a positive attitude. If someone believes that a behavior has negative consequences, is not beneficial, and does not align with their expected outcomes,

they will develop a negative attitude (Nickerson, 2023). The results of Giri and Ghimire (2020) research show that attitude has a significant positive effect on the intention to use digital payments in Nepal. In line with Amron et al. (2024) research, which found that students who consider e-wallets to be beneficial tend to have higher satisfaction and interest, this positive attitude has a significant positive effect on Malaysian students' intention to continue using e-wallets in payment transactions. The research by Panjaitan et al. (2023) also shows that attitude has a significant positive influence on the intention to use technology. Therefore, the hypothesis in this study is

H1: Attitude has a positive and significant influence on the intention to use QRIS among students at Sebelas Maret University.

The social environment will exert pressure or send signals to individuals to participate in the behavior of those around them. This is also related to individuals' need for social acceptance within a group (Zanra & Sufnirayanti, 2024). The findings of Paramita and Cahyadi (2024) state that social influence has a significant positive effect on a person's intention to use QRIS. This is in line with the research by Panjaitan et al. (2023) that subjective norms have a significant positive influence on the intention to use technology. Thus, the hypothesis in this study is

H2: Subjective Norm has a positive and significant influence on the Intention to Use QRIS among students at Sebelas Maret University.

The relationship between intention and behavior is how the desire to utilize digital technology translates into actual use. The more positive users' intentions toward behavior are, the more likely that behavior will be translated into actual behavior. Understanding and refining this relationship can enhance the sustainable adoption of digital technology (Ezeudoka & Fan, 2024). Findings from Panjaitan et al. (2023) indicate that intention has a significant positive influence on digital technology use behavior. In line with research on digital payment systems in Thailand by Chaveesuk et al. (2021) the results indicate that behavioral intention has a significant positive influence on actual use of digital payments. Thus, the hypothesis in this study is

H3: Intention to Use has a positive and significant influence on Behavior to Use QRIS among students at Sebelas Maret University.

One important insight in understanding technology acceptance is the role of digital literacy in the relationship between intention to use and actual behavior. Digital literacy is a moderating factor that influences how individuals translate their intention to use technology into actual behavior. Individuals with higher digital literacy who are more tech-savvy perceive that technology use can efficiently provide benefits in resolving their daily challenges, so technical skills must be balanced with knowledge, which ultimately shapes optimal actual behavior (Ezeudoka & Fan, 2024). Consistent with the findings of Ezeudoka and Fan (2024), digital literacy can moderate the relationship between intention to use and actual behavior. The higher the level of digital literacy, the stronger the relationship between intention to use and behavior to use e-pharmacy in South Africa. In line with the research by Restianto et al. (2024), digital literacy can moderate the relationship between user satisfaction and continuance to use in e-commerce usage. Thus, the hypothesis in this study is

H4: Digital literacy has a significant effect and strengthens the relationship between Intention to Use and Behavior to Use QRIS among students at Sebelas Maret University.

METHOD

This study employs descriptive quantitative research, specifically statistical analysis, to describe the collected data, enabling interpretation and facilitating understanding of decision-making (Sudirman et al., 2023). The scope of this study is limited and focused on elements in the Theory of Reasoned Action that are relevant to the behavior of QRIS use among students at Sebelas Maret University, including Attitude, Subjective Norm, Intention to Use, Behavior to Use, and Digital Literacy as a moderator of the influence of Intention to Use on Behavior to Use. The population in this study consists of all active students at Sebelas Maret University who have used QRIS as a payment method.

The sample size was determined using Cochran's formula (1977), as the exact population size was unknown, resulting in a sample of 385 respondents. The sample was selected using non-probability sampling with a purposive sampling approach (Pasaribu et al., 2022), meeting specific criteria: actively enrolled as UNS students and currently enrolled in the 2025/2026 academic year.

Primary data was collected from the responses to a questionnaire filled out by respondents in the form of a Google Form and shared via social media or online platforms. The collected data will be converted into numerical values and subjected to mathematical calculations. The questionnaire method was used to measure each variable using a 4-point Likert scale (Strongly Agree, Agree, Disagree, and Strongly Disagree). This study uses Structural Equation Modeling (SEM) with SmartPLS software to analyze the causal relationships between latent variables (Hair et al., 2019). The analysis begins with model measurement (outer model) to assess validity and reliability, including Outer Loadings, Convergent Validity, Discriminant Validity, and Consistency Reliability tests. This was followed by structural modeling (inner model) including VIF Value, Coefficient of Determination (R^2), Effect Size (f^2), Q2 Value, and hypothesis testing was conducted through Path Coefficient. Then, simple slope analysis was used to test the moderation of Digital Literacy in strengthening the relationship between Intention to Use and Behavior to Use (Hair et al., 2019).

RESULTS AND DISCUSSION

Data Analysis

The research instrument will be tested to measure its capabilities by evaluating the measurement model (outer model) through the PLS-SEM approach (Hair et al., 2019). The test was conducted on 37 respondents who were outside the sample but still within the same population.

Table 1
Measurement Model Assessment: Outer Loadings, AVE, and Reliability

| Variable | Outer loadings | AVE | Cronbach's alpha | Composite reliability |
|------------------------|----------------|-------|------------------|-----------------------|
| Attitude | | | | |
| ATT1 <- ATT | 0.757 | | | |
| ATT2 <- ATT | 0.842 | 0.620 | 0.702 | 0.830 |
| ATT3 <- ATT | 0.760 | | | |
| Behavior to Use | | | | |
| BTU1 <- BTU | 0.876 | | | |
| BTU2 <- BTU | 0.772 | 0.703 | 0.788 | 0.876 |
| BTU4 <- BTU | 0.863 | | | |

| | | | | |
|-------------------------|-------|-------|-------|-------|
| Intention to Use | | | | |
| ITU1 <- ITU | 0.831 | | | |
| ITU2 <- ITU | 0.920 | 0.767 | 0.848 | 0.908 |
| ITU3 <- ITU | 0.873 | | | |
| Digital Literacy | | | | |
| LD1 <- LD | 0.745 | | | |
| LD2 <- LD | 0.827 | 0.638 | 0.812 | 0.875 |
| LD3 <- LD | 0.752 | | | |
| LD5 <- LD | 0.864 | | | |
| Subjective Norm | | | | |
| SN1 <- SN | 0.869 | | | |
| SN2 <- SN | 0.866 | 0.729 | 0.877 | 0.915 |
| SN3 <- SN | 0.764 | | | |
| SN4 <- SN | 0.910 | | | |

Source: Data Analyzed, 2025

Table 2
Discriminant Validity

| Variable | ATT | BTU | ITU | LD | SN | LD x ITU |
|-----------------|-------|-------|-------|-------|-------|----------|
| ATT | | | | | | |
| BTU | 0.747 | | | | | |
| ITU | 0.617 | 0.825 | | | | |
| LD | 0.710 | 0.862 | 0.745 | | | |
| SN | 0.466 | 0.637 | 0.445 | 0.471 | | |
| LD x ITU | 0.203 | 0.464 | 0.664 | 0.424 | 0.138 | |

Source: Data Analyzed, 2025

Items BTU 3 and LD 4 were removed in the previous test. This was due to uneven score distribution. Most respondents chose scores of 3-4, while scores of 1-2 were not chosen, making items BTU 3 and LD 4 invalid and removed in the next test. According to Garson (2016), in a reflective model, removing items is not a problem because the remaining items can still represent the latent variable, which will retain the same meaning. Therefore, invalid items from the initial test were removed in subsequent tests to maintain the accuracy of the evaluation results and improve reliability.

After removing two invalid items, Table 1 reveals that every item has outer loading values greater than 0.7. This implies that the validity test standards for outer loadings have been met by all products. Furthermore, every construct examined in this research achieves an Average Variance Extracted (AVE) value greater than 0.50, which confirms that the requirements for convergent validity have been successfully fulfilled. Regarding internal consistency, both the Cronbach's alpha and composite reliability metrics for all variables surpass 0.70, establishing that the instruments are highly reliable and consistent in measuring their respective constructs. Finally, as presented in Table 2, the Heterotrait-Monotrait Ratio (HTMT) values for all constructs remain below 0.90, indicating that the criteria for discriminant validity have been thoroughly met.

The evaluation of the structural model (inner model) is the last step in PLS-SEM analysis. This stage begins with evaluating the VIF value. The following are the VIF value results:

Table 3
VIF Value

| Variable | VIF |
|-----------------|-------|
| ATT -> ITU | 1.119 |
| ITU -> BTU | 1.202 |
| LD -> BTU | 1.198 |
| LD x ITU -> BTU | 1.008 |
| SN -> ITU | 1.119 |

Source: Data Analyzed, 2025

All VIF values are below 5, and are even close to 1. This indicates that there is no multicollinearity problem. After that, calculate the model's predictive ability using the Q² Value and the Coefficient of Determination (R²). Q² Value and Coefficient of Determination (R²) results:

Table 4
Coefficient of Determination (R²) dan Q² Value

| Variable | R-square | Q ² predict |
|----------|----------|------------------------|
| BTU | 0.439 | 0.276 |
| ITU | 0.332 | 0.321 |

Source: Data Analyzed, 2025

If the R² value is ≤ 0.19, it means the relationship is weak; if the R² value is 0.33–0.66, it means the relationship is moderate; and if the R² value is ≥ 0.67, it means the relationship is strong (Chin, 1998). The table 4 shows that the variables Attitude (ATT), Subjective Norm (SN), Intention to Use (ITU), and Digital Literacy (LD) together can explain the variable Behavior to Use (BTU) by 43.9%, which falls into the moderate category. Meanwhile, the variables Attitude (ATT) and Subjective Norm (SN) can explain Intention to Use (ITU) by 33.2%, which is also classified as moderate. Thus, this model has fairly good predictive power. Evaluation of the PLS path model's predictive relevance relies on Q² thresholds of 0 (small), 0.25 (moderate), and 0.50 (large) (Hair et al., 2019). Because the Q² predict values for Intention to Use and Behavior to Use are greater than 0.25, the model exhibits moderate predictive relevance.

Next, an effect size (f²) test was conducted to analyze construct relevance. A value of 0.02 indicates small relevance, 0.15 indicates moderate relevance, and 0.35 indicates high relevance (Hair et al., 2019). The following are the results of the effect size (f²) test:

Table 5
Effect Size (f²)

| Variable | ATT | BTU | ITU | LD | SN | LD x ITU |
|----------|-----|-------|-------|----|----|----------|
| ATT | | | 0.296 | | | |
| BTU | | | | | | |
| ITU | | 0.446 | | | | |
| LD | | 0.067 | | | | |
| SN | | | 0.061 | | | |
| LD x ITU | | 0.020 | | | | |

Source: Data Analyzed, 2025

Attitude demonstrates a moderate to large influence on Intention to Use ($f^2 = 0.296$), whereas Subjective Norm exhibits a small effect ($f^2 = 0.061$). Notably, Intention to Use exerts a large impact on Behavior to Use ($f^2 = 0.446$), while the moderating role of Digital Literacy shows a small effect size ($f^2 = 0.020$) on Behavior to Use.

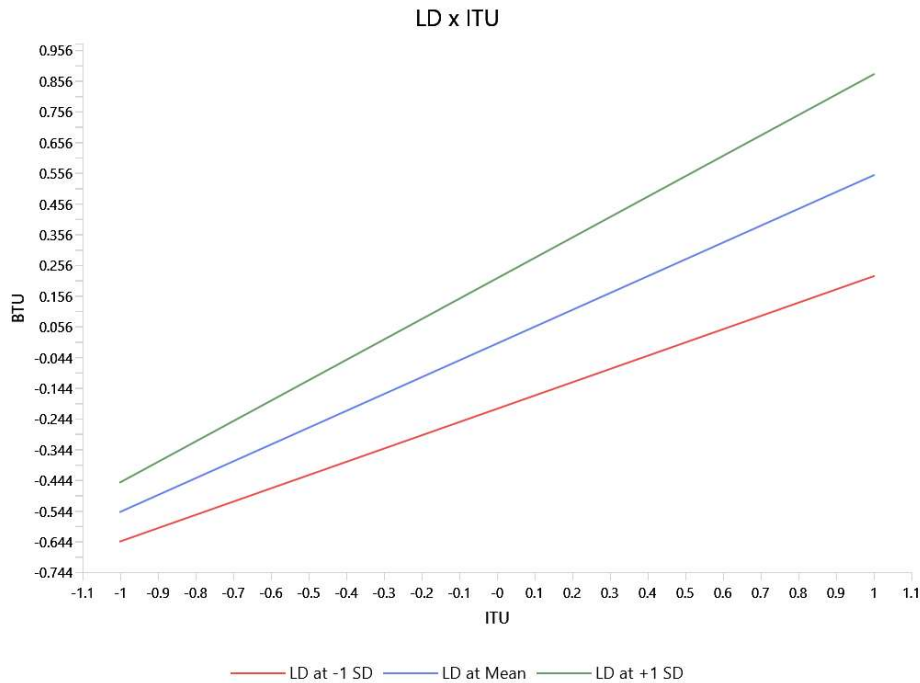
To evaluate these relationships, hypothesis testing was carried out using path coefficients, where an alpha level of 5% was applied; hypotheses were supported if the t-statistic exceeded the t-table threshold of 1.96 and the p-value fell below 0.05. Furthermore, the moderation effects were specified through a simple slope analysis following the framework of Hair et al. (2019). The comprehensive findings from both the path coefficients and the simple slope analysis are detailed as following:

Table 6
Path Coefficients, T-Statistics, and P-Value for Hypotheses Testing

| Variable | Original sample (O) | Sample mean (M) | T statistics | P values | Description |
|-----------------|---------------------|-----------------|--------------|----------|-------------|
| ATT -> ITU | 0.470 | 0.471 | 10.746 | 0.000 | Supported |
| ITU -> BTU | 0.548 | 0.550 | 11.743 | 0.000 | Supported |
| LD -> BTU | 0.212 | 0.213 | 4.093 | 0.000 | Supported |
| LD x ITU -> BTU | 0.116 | 0.110 | 2.023 | 0.043 | Supported |
| SN -> ITU | 0.214 | 0.218 | 5.179 | 0.000 | Supported |

Source: Data Analyzed, 2025

The empirical findings demonstrate that Intention to Use is significantly and positively shaped by both Attitude (path coefficient = 0.470, $t = 5.179 > 1.96$, $p = 0.000 < 0.05$) and Subjective Norm (path coefficient = 0.214, $t = 10.746 > 1.96$, $p = 0.000 < 0.05$). Furthermore, Intention to Use exerts a substantial positive and significant effect on Behavior to Use, yielding a coefficient of 0.548 ($t = 11.743 > 1.96$, $p = 0.000 < 0.05$). Crucially, the relationship between Intention to Use and Behavior to Use is significantly moderated by digital literacy. This interaction produces a positive moderation path coefficient of 0.116, backed by a t-statistic of 2.023 and a p-value of 0.043. Because the interaction coefficient (Digital Literacy x Intention to Use) is positive, it confirms that Digital Literacy significantly reinforces the positive impact of Intention to Use on Behavior to Use QRIS.



Source: Data Analyzed, 2025

Figure 2
Simple Slope Analysis

The green line delineates the relationship between Intention to Use and Behavior to Use specifically for students possessing high Digital Literacy. Conversely, the red line illustrates this same relationship for the demographic with low Digital Literacy. As is evident from the graphical representation, the slopes of these two lines exhibit a clear divergence, which validates the significant moderating role of Digital Literacy. This divergence confirms that the impact of Intention to Use on Behavior to Use is conditional upon the level of Digital Literacy. Consequently, the influence exerted by Intention to Use on Behavior to Use is substantially stronger in students characterized by high Digital Literacy than in those with low levels.

Discussion

The first hypothesis (H1) posits that Attitude positively and significantly influences the Intention to Use QRIS. Empirical evaluation supports this hypothesis, revealing a path coefficient of 0.470, backed by a t-statistic of 5.179 (which exceeds 1.96) and a p-value of 0.000 (which is less than 0.05). These metrics confirm that Attitude exerts a significant positive effect on Intention to Use, indicating that any upward shift in attitude drives a corresponding rise in intention. In other words, as UNS students develop more favorable perceptions and positive viewpoints toward QRIS, their internal intent to continue utilizing this payment system strengthens. This outcome corresponds with previous literature by Giri and Ghimire (2020), which demonstrated that attitude significantly and positively shapes digital technology adoption behavior within the Nepalese digital payment sector. Furthermore, these findings match a study by Amron et al. (2024), which verified that favorable attitudes driven by perceived benefits and satisfaction significantly dictate Malaysian students' intentions to maintain e-wallet usage. This also

reinforces the conclusions of Panjaitan et al. (2023) noting the substantial positive influence of attitude on technology acceptance intentions.

The second hypothesis (H2) posits that Subjective Norm positively and significantly influences the Intention to Use QRIS. Empirical analysis reveals a path coefficient of 0.214, backed by a t-statistic of 10.746 (which exceeds 1.96) and a p-value of 0.000 (which is less than 0.05). These metrics confirm that Subjective Norm has a significant positive effect on Intention to Use, meaning that any increase in Subjective Norm drives a corresponding rise in Intention to Use. In other words, when UNS students perceive stronger social expectations or pressure from influential figures in their environment to utilize QRIS, their internal intent to adopt this technology strengthens. This outcome reinforces the work of Paramita and Cahyadi (2024), who determined that social influence positively and significantly affects individual QRIS adoption intentions. It also aligns with Panjaitan et al. (2023), who demonstrated that subjective norms exert a significantly positive impact on technology acceptance intentions.

The third hypothesis (H3) posits that Intention to Use positively and significantly influences the Behavior to Use QRIS. Empirical evaluation supports this hypothesis, revealing a path coefficient of 0.548, supported by a t-statistic of 11.743 (which exceeds 1.96) and a p-value of 0.000 (which is less than 0.05). These metrics confirm that Intention to Use exerts a significant positive effect on Behavior to Use, indicating that any upward shift in intention drives a corresponding rise in actual behavior. In other words, as the internal drive to utilize QRIS grows stronger among UNS students, it directly translates into an increase in their real-world usage behavior. This outcome corresponds with previous literature by Panjaitan et al. (2023), which demonstrated that intention significantly and positively shapes digital technology adoption behavior. Furthermore, these findings match a study on Thai digital payment systems by Chaveesuk et al. (2021), which verified that behavioral intention serves as a significant positive determinant of actual digital payment usage.

The fourth hypothesis (H4) suggests that Digital Literacy exerts a significant moderating effect that reinforces the connection between Intention to Use and Behavior to Use QRIS. Statistical evaluations confirm this moderating role, revealing an interaction path coefficient of 0.116, a t-statistic of 2.023 (surpassing 1.96), and a p-value of 0.043 (falling below 0.05). The positive interaction value of 0.116 establishes that Digital Literacy significantly intensifies the impact of intention on behavior to use QRIS. Additionally, the Simple Slope Analysis displays distinct gradients for the two slopes, demonstrating that the relationship between Intention to Use and Behavior to Use varies significantly between students with high versus low digital proficiency. Specifically, the conversion of intent into actual behavior is more pronounced among students possessing superior digital literacy; the greater their technological competence, the more tightly linked their intentions are to real QRIS usage. This outcome corroborates the findings of Ezeudoka and Fan (2024), who observed that digital literacy moderates the path from intention to actual e-pharmacy behavior in South Africa. It is also congruent with Restianto et al. (2024), who verified the moderating capacity of digital literacy regarding user satisfaction and continuance intentions in e-commerce contexts.

CONCLUSION AND SUGGESTION

This research substantiates the theoretical framework of the Theory of Reasoned Action (TRA) within the scope of QRIS technology, which is expanding rapidly across Indonesia. The empirical evidence demonstrates that Intention to Use is significantly and positively driven by both Attitude and Subjective Norm, this intention subsequently acts as a

primary predictor that positively shapes Behavior to Use. Such outcomes validate the core premise of TRA, which dictates that heightened attitudes and subjective norms amplify intentions, thereby fostering actual behavior. Additionally, this study offers a novel theoretical contribution by establishing digital literacy as a significant moderating factor. This highlights how a user's digital proficiency critically dictates the efficiency with which technological intent is translated into real world QRIS adoption behavior.

This study also contributes to understanding how building positive perceptions (Attitude) and subjective norms (Subjective Norm) are crucial to encouraging the intention to use QRIS. Service providers should consider designing the QRIS interface, for example by adding an "Emergency Guide" (one-tap tutorial) in the app and conducting mass education through digital channels (such as TikTok or Instagram videos) to build positive perceptions while leveraging community influence through local influencer programs to strengthen subjective norms. The government and educational institutions can create policies that integrate digital literacy through both the curriculum and non-academic activities. Universities can integrate QRIS as an official payment method for tuition fees, libraries, or canteens.

This study has limitations in terms of the scope of variables and the theoretical model used. Consequently, subsequent investigations could expand upon these findings by incorporating alternative constructs, such as user habits or trust, which might also dictate QRIS adoption behavior. Future researchers could integrate the Theory of Reasoned Action (TRA) with the Technology Acceptance Model (TAM) to establish a more robust conceptual framework. Additionally, expanding the scope of future studies to encompass a broader, more heterogeneous population would enhance the generalizability of the results.

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