International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

The Effect of Digital Literacy and Trust with Security as An Intervening Variable on Transaction Decisions Using Quick Response Code Indonesian Standard (QRIS) on Students of the Faculty of Economics and Business, Universitas Negeri Makassar

Syamsu Rijal[1], Nur Hilda Mustari[2], Andi Caezar To Tadampali[3], Nur Arisah[4]

[1,]Jurusan Ilmu Ekonomi Universitas Negeri Makassar
[2,3,4]Prodi Pendidikan Ekonomi Universitas Negeri Makassar

E-mail : syamsurijalasnur@unm.ac.id, nurhildamustari@gmail.com
andi.caesar@unm.ac.id, nurarisah.fe@unm.ac.id,

Abstract

This study aims to analyze the effect of digital literacy and trust on transaction decisions using QRIS with security as an intervening variable for students of the Faculty of Economics and Business, Makassar State University. Using a quantitative approach and descriptive-verification method, data were collected from 134 respondents through questionnaires and analyzed using the Partial Least Square Structural Equation Model (PLS-SEM). The results showed that digital literacy and trust have a positive and significant effect on transaction decisions both directly and indirectly through security in students. Security is proven to mediate the influence of digital literacy and trust on transaction decisions. These findings confirm the importance of increasing digital literacy and a sense of security in strengthening the adoption of digital payment systems, especially QRIS, among university students.

Keywords: Digital Literacy, Trust, Security, Transaction Decision

INTRODUCTION

The development of digital technology has changed the way people, especially the younger generation such as students, carry out their daily activities, including financial transactions. Students as part of the digital generation are very familiar with technology

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

and tend to choose practical and efficient payment methods. One of the rapidly growing innovations in the digital payment system in Indonesia is the Quick Response Code Indonesian Standard (QRIS), designed by Bank Indonesia to unite various QR codes from payment providers to make transactions faster, easier, safer, and without admin fees.

The existence of electronic money as a non-cash payment instrument will certainly provide great benefits because its use is considered faster and more efficient than using cash because of the digital system that provides various conveniences for its users. Non-cash payments currently provide a guarantee of transaction security quickly and of course at a lower cost. This is evidenced by the increasing use of electronic money from year to year due to the emergence of new users who are interested in using non-cash money. In order to adapt to technological advances, the financial sector has created a new ecosystem called the cashless society, which is a change in the direct transaction process to indirect (Adinda, 2022). The advancement of innovation in finance and business using computerized systems presenting electronic money (e-cash) is a sign of the emergence of a cashless society (Khalid, M., Rahman, M. G., & Setiawan, 2023).

However, despite the widespread use of QRIS, its adoption is not entirely evenly distributed, especially among students. Some important factors that influence the decision to use QRIS include digital literacy, trust, and security.

Digital literacy refers to an individual's ability to access, understand, evaluate, and use information through digital technology effectively (Julien, 2018; Potter, 2019). In the context of digital transactions, this literacy is important so that users can operate payment applications such as QRIS safely and efficiently. Students who have high digital literacy will be more confident and ready to anticipate risks in transactions.

Trust is also an important factor in digital transaction decision making. According to (Pavlou, 2016), transaction trust is the user's belief in the integrity and ability of service providers to provide a secure system. Trust is formed through positive experiences, service provider reputation, and transparency in protecting user data.

Furthermore, security is a very influential variable, even acting as an intervening variable in the relationship between digital literacy and trust in transaction decisions. (Chen & Chou, 2019) state that perceptions of the security of personal and financial information determine users' comfort and willingness to use digital services. When security is guaranteed, users will be more trusting and willing to make transactions through digital platforms such as QRIS.

This research also refers to the Theory of Planned Behavior (Ajzen, 1991), which explains that the intention to behave - in this case transacting - is influenced by attitudes,

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

subjective norms, and perceived control over behavior. In addition, the Technology Acceptance Model (TAM) by Davis (1989) is used to explain how perceived ease and usefulness of technology affect user acceptance of digital innovations such as QRIS.

Based on this foundation, this study aims to analyze the effect of digital literacy and trust on student decisions in transactions using QRIS, with security as an intervening variable. This research was conducted on students of the Faculty of Economics and Business, Makassar State University because they are part of a group of potential users who are familiar with technology and active in digital economic activities.

The Effect of Digital Literacy on Transaction Decisions.

Digital literacy is a person's ability to understand, analyze, assess, organize and evaluate information obtained with the help of digital technology tools (UNESCO, 2018). Digital literacy affects a person's decision to use QRIS, especially since Indonesia is the largest digital economy market in Southeast Asia. With increasing interest in digital literacy, individuals increasingly understand and utilize digital technology in various activities, including transactions. This shows that the ability to use digital technology and information can encourage people to be more active in making transactions through services such as QRIS (L.Asyifa, 2024).

Research conducted by (Al-Okaily et al, 2020) shows that individuals who have higher digital literacy are more confident in using digital payment technology. This literacy increases users' ability to navigate payment systems more effectively, reduce errors, and minimize security risks that may arise. Thus, digital literacy is the main driver in making decisions to transact using QRIS.

The Effect of Trust on Transaction Decisions.

According to (Seputri et al., 2022) trust is a belief that exists in parties who are bound to each other. Trust in the implementation of digital transactions has a significant impact on user intentions in making transactions. The belief factor in the normative expectations of those who are directed, such as the influence of individuals who believe in the use of QRIS to develop confidence in using technology to improve their skills, is influenced by intention.

Trust has a significant influence on transaction decisions using QRIS, because individuals who feel confident in the security and reliability of this payment system tend to be more willing to use it. When users have high trust in QRIS, both in terms of personal

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

data protection and ease of transactions, they will be more active in making payments through the platform.

The Effect of Security on Transaction Decisions.

Security has a significant influence on transaction decisions using QRIS. When users feel that the QRIS payment system is safe, they tend to be more confident to make transactions. Security in this context includes personal data protection, system reliability, and fraud risk mitigation. Research shows that a high level of security can increase user convenience, which in turn encourages them to more actively use QRIS in their daily transactions (Rayyani, 2024).

(Sely, 2024) states that "security factors have a significant influence on students' decisions to use QRIS Islamic mobile banking" and shows that security provides comfort when transacting. This shows that a positive perception of QRIS security can increase users' decisions to choose this payment method.

Thus, it can be concluded that security serves as a key factor influencing transaction decisions with QRIS, as users who feel safe are more likely to make transactions digitally.

The Effect of Digital Literacy on Security.

According to (van Deursen and van Dijk, 2014), individuals with digital literacy tend to be more aware of the risks that arise in the digital world, such as cyber threats, data theft, and online fraud. They have a better understanding of how to protect personal information, use security software and recognize potential dangers in the digital environment. With adequate digital literacy, one can take more effective preventive measures to keep data safe when using technology.

Research conducted by (Fauzi and Darmawan, 2020) shows that students with high digital literacy are more likely to feel safe when interacting with digital platforms because they understand how to protect personal data and avoid existing security risks. An understanding of how technology works and digital security practices makes them more confident in using digital services such as electronic payments, which directly increases their perception of security.

The Effect of Trust on Security.

Trust has a close relationship with perceived security, because individuals who feel trust in a system or service tend to feel more secure when using it. When users

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

believe that their personal data and information are well protected, they will be more comfortable in interacting with the technology. According to (Kshetri, 2017), trust in information system security is very important in building positive relationships between users and service providers.

According to (Rahayu and Sari, 2022), users' trust in digital payment systems greatly influences their decision to make transactions, because this trust reduces concerns about security risks. In this context, trust can reduce users' concerns about potential threats, thereby increasing the level of adoption and use of digital services. When trust is built, users will be more open to making transactions and sharing information, as they feel that the system is safe and reliable.

The effect of digital literacy on transaction decisions through security.

When users have adequate knowledge of security information, they will be more confident in using QRIS. This is in line with the findings of (Humayroh, 2024), which show that “digital literacy has a significant effect on the decision to use QRIS, where individuals who are more digitally literate tend to better understand and apply security measures when transacting”. Thus, digital literacy not only improves users' technical capabilities, but also strengthens the perception of security needed to make better transaction decisions.

Therefore, increased digital literacy can contribute to more positive decisions in using QRIS, as users who are well educated about security will be more likely to make transactions with confidence.

The effect of trust on transaction decisions through security.

Trust has a very important role in influencing transaction decisions using QRIS, especially through security aspects. The study by (Kapoor et al, 2022) confirms that security is one of the factors that build consumer trust in digital payment technology. When users feel that the payment system they use is safe from threats such as hacking or data theft, their trust in the system increases. This increased trust has a positive effect on their decision to continue using the payment system in their daily transactions.

Research shows that users' trust in the security of digital payment systems can reduce their concerns about the risk of fraud and data leakage. According to (Buluati et al., 2023), “trust in transaction security greatly influences user interest in using QRIS, because a sense of security that is felt will encourage decisions to transact”. Thus, when

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

users have high trust in the security of QRIS, they will be more likely to make transactions regularly.

Therefore, building trust through increased security and transparency in the use of QRIS is essential to encourage more users to transact using this method. Strong trust not only increases user convenience, but also contributes to the wider adoption of the payment system.

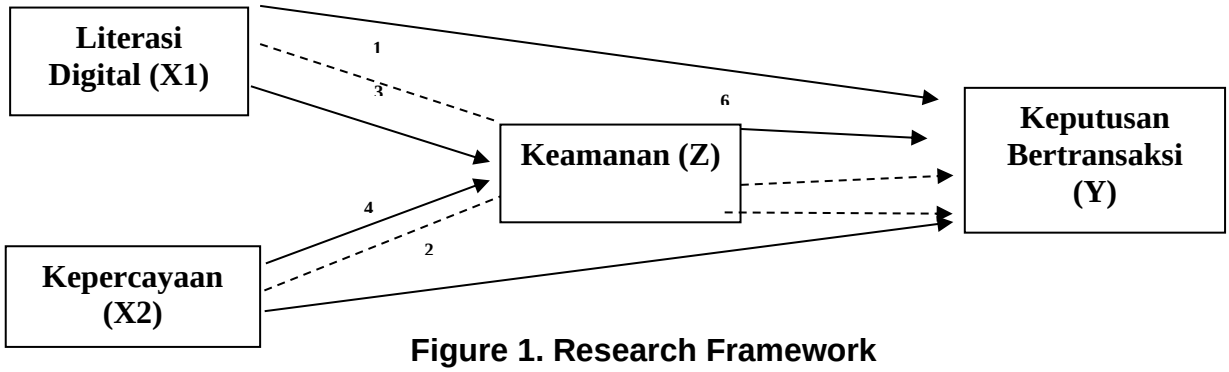


Figure 1. Research Framework

METHOD

The type used in this research is descriptive-verifikative quantitative. This type of descriptive quantitative research is research that is used in illustrating or describing situations and circumstances with data in the form of numbers (Sulistyawati, Wiwik, W. Wahyudi, 2022). In this study, Digital Literacy and Trust are used as independent variables (X), Transaction Decisions as dependent variables (Y), Security as an intervening variable (Z).

The population in this study were students of the Faculty of Economics and Business, Makassar State University. Based on the calculation of the Cochran formula, the sample used in this study amounted to 134 respondents. The criteria used are 1) Active students of the Faculty of Economics and Business, Makassar State University, 2) Classes 2021, 2022 and 2023. This study includes 15 question items, consisting of: 15 questions for the Digital Literacy variable; 15 questions for the Trust variable; 15 questions for the Security variable and 20 for the Transaction Decision variable.

The analysis technique in this study uses a software application called SmartPLS Version 4.0 with data analysis techniques with Structual Equation Modeling (SEM) based on Partial Least Square (PLS). SEM is a data analysis technique for simultaneously testing a relationship formed from one or more independent variables or unmeasured

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

variables (Nisa et al., 2021). The model used in this study is causal modeling or influence-relationship, also known as path analysis. Analysis in the PLS model can be done through 3 stages, namely measurement models, structural models and hypothesis testing. Furthermore, this study uses a five-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (5).

RESULTS AND DISCUSSION

Based on the results of distributing questionnaires, the respondents in this study obtained 134 respondents who were active students of the Faculty of Economics and Business, Makassar State University. All respondents were selected through the probability sampling method, so that every student in the population had the same opportunity to become part of the research sample. Respondents who participated came from various study programs in the faculty environment, with different college generation backgrounds, starting from the 2021-2023 batch level students.

Respondents who participated in this study came from various majors and classes, thus providing a broader and more diverse picture of their perceptions and experiences in using QRIS as a digital payment method. The presence of respondents with different backgrounds also enriches the data collected, especially in examining the influence of digital literacy, trust, and security on transaction decisions. Their active participation is an important component in supporting the validity and reliability of the results of this study.

Table 1 Characteristics of Respondents

No	Aspect	frequency	Percentage (%)
.1	**Gender**		
	Woman	114	85,1%
	Man	20	14,9%
2.	**Age**		
	18	4	3%
	19	10	7,5%
	20	33	24%
	21	72	53%
	22	14	10%
	23	1	0,7
3.	**Study Program**		
	Management (S1)	33	24,7%
	Development Economics (S1)	9	6,7%
	Accounting (S1)	8	6%
	Accounting Education (S1)	23	17,2

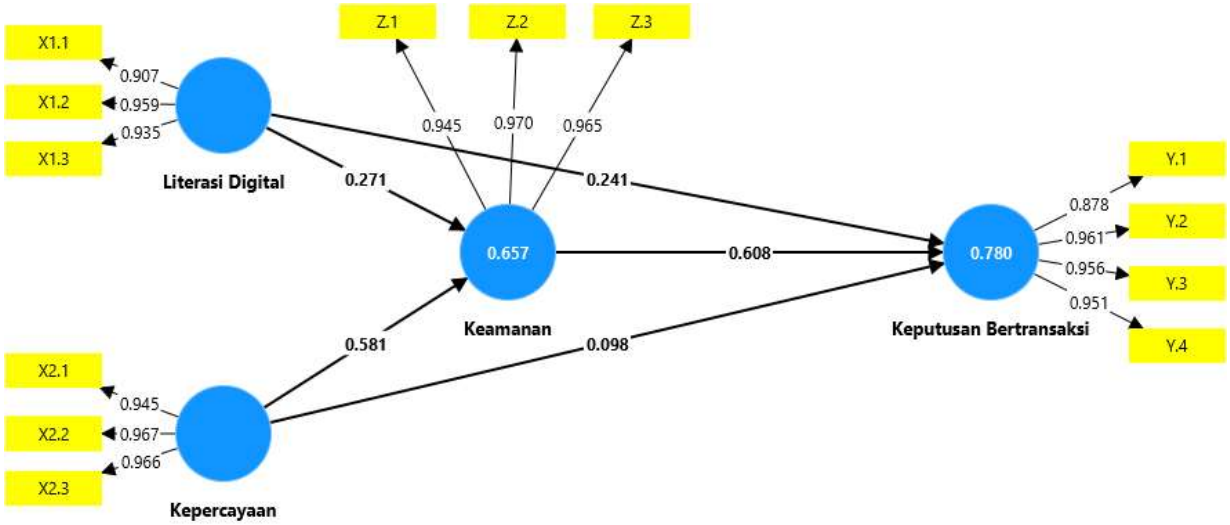
Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

	Accounting (D4)	6	4,4%
	Economics Education (S1)	42	31,3%
	Digital Business (S1)	4	2,2%
	Entrepreneurship (S1)	10	7,5%
4.	**Generation**		
	2021	92	68,6%
	2022	30	22,4%
	2023	12	9%

RESEARCH RESULTS

Researchers test measurement models using several methods, such as reliability, convergent validity and discriminant validity. In this study, researchers tested the measurement model on 134 respondent data that had passed the screening and profile stages. The measurement model test results can be seen in Figure 2 below:



Suitability of the indicator value and the construct value. To analyze the value of convergent validity, you can use the outer loading score or loading factor. According to (Ghozali, 2018), a correlation can be said to fulfill convergent validity if it has a loading value greater than 0.70. The output shows that the loading factor provides a value above the recommended value of 0.70. So that the indicators used in this study have met convergent validity. However, in the early stages of the measurement scale development study, the loading factor value of 0.50 - 0.60 is still considered adequate. (According to Chin in (Ghozali, Imam, 2015).

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

Discriminant validity is carried out using measurements using the Cross-Loading test and the Fornell-Larcker Criterion test. In cross loading measurements, each indicator on a construct must have a higher value than its value on other constructs. The following are the results of the cross loading test below:

Table 2 *Cross Loading* Test

Kode	Digital Literacy	Trust	Transaction Decisions	Security
X1.1	0.907	0.631	0.663	0.610
X1.2	0.959	0.736	0.734	0.693
X1.3	0.935	0.806	0.721	0.719
X2.1	0.741	0.945	0.693	0.721
X2.2	0.738	0.967	0.730	0.754
X2.3	0.762	0.966	0.782	0.802
Y.1	0.723	0.737	0.878	0.795
Y.2	0.695	0.709	0.961	0.787
Y.3	0.685	0.696	0.956	0.828
Y.4	0.732	0.732	0.951	0.810
Z.1	0.691	0.767	0.811	0.945
Z.2	0.705	0.765	0.811	0.970
Z.3	0.688	0.750	0.853	0.965

Source: Smart PLS Data Processing Results, 2025

Based on Table 2 Cross Loading, it can be seen that the Cross Loading value in each variable, namely Digital Literacy (X1), Trust (X2), Security (Z) and Transaction Decisions (Y) shows a higher value in its construct than the loading value in other constructs. So this research has no problem with discriminant validity. The second stage for the discriminant validity test is the Fornell Larcker Criterion, where the root value of the AVE must be higher than the construct correlation value with other latent variables to prove the research has good discriminant validity (Hair et al., 2020). The following are the results of the Fornell Larcker Criterion test on the Digital Literacy (X1), Trust (X2), Security (Z) and Transaction Decisions (Y) variables obtained in the results of this study.

The following are the results of the Construk Reliability test for the Digital Literacy (X1), Trust (X2), Security (Z) and Transaction Decisions (Y) variables obtained in the results of this study.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

Table 3 *Construct Reliability*

Variable	*Cronbach's alpha*	*Composite reliability (rho_a)*	*Composite reliability (rho_c)*	Description
Digital Literacy (X1)	0.927	0.932	0.954	
Trust (X2)	0.957	0.960	0.972	All
Security (Z)	0.957	0.957	0.972	Reliable
Transaction Decisions (Y)	0.953	0.953	0.966	

Source: Smart PLS Data Processing Results, 2025

Based on table 3 Fornell Larcker Criterion, all variables used in this study, namely Digital Literacy (X1), Trust (X2), Security (Z) and Transaction Decisions (Y) have an AVE value of the indicator on its own variable greater than the AVE value of the indicator on other variables. Therefore, from the two tests used, namely, Cross-Loading and also the Fornell-Larcker Criterion test, it can be concluded that the five variables used in this study passed the discriminant validity test.

Tabel 4. R-Square Test

Variabel	R-square
Transaction Decisions (Y)	0.662
Security (Z)	0.708

Source: Smart PLS Data Processing Results, 2025

The transaction decision variable has an R-Square value of 0.662. This means that 66.2% of transaction decision variables are influenced by digital literacy and trust variables. Meanwhile, 33.8% is influenced by other variables outside the study.

The security variable has an R-Square value of 0.708. This means that 70.8% of transaction decision variables are influenced by digital literacy and trust variables. Meanwhile, 20.9% is influenced by other variables outside the study.

Table 5 F-Square Test

Variable	F-Square	Description
X1 -> Y	0.094	Small Impact
X2 -> Y	0.162	Medium Impact
X1 -> Z	0.264	Medium Impact
X2 -> Z	0.232	Medium Impact
Z -> Y	0.488	Large Impact

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

Based on Table 5 F-Square Test Results, it can be concluded that the Digital Literacy Variable (X1) has a small influence on the Transaction Decision variable (Y) with a value of (f^2 = 0.094). The Trust variable (X2) has a moderate influence on the Transaction Decision variable (Y) with a value of (f^2 = 0.162). The Digital Literacy variable (X1) has a moderate influence on the Security variable (Z) with a value of (f^2 = 0.264). The Trust variable (X2) has a moderate influence on the Security variable (Z) with a value of (f^2 = 0.232) and the Security variable (Z) has a moderate influence on the Transaction Decision variable (Y) with a value of (f^2 = 0.488).

Hypothesis

Direct *Effect Analysis* (*Path Coefficient*)

In testing the hypothesis in this study, a test analysis is needed, namely direct effect (direct relationship). Direct effect analysis is useful for testing the hypothesis of the direct effect of predictors (independent) on predictors (dependent) by measuring the path coefficient using bootstrapping. Hypothesis testing is done by looking at the t-statistics value and the P Values value, if the relationship between variables has a P-value <0.05 or TStatistic> 2.001 then the variable relationship is significant. Vice versa, if the P-Value> 0.05 or T-Statistic < 2.001, the relationship between the variables is not significant (Dash & Paul, 2021).

Based on the data that has been processed using SmartPLS, each hypothesized relationship is carried out using a simulation calculated by bootstrapping the sample. Bootstrapping testing aims to reduce problems caused by data abnormalities in research.

Tabel 6 *Direct Effect Analysis Test*

Hypothesis	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Description
X1 -> Y	0.137	3.515	0.000	Significant
X2 -> Y	0.143	4.394	0.000	Significant
X1 -> Z	0.084	5.956	0.000	Significant
X2 -> Z	0.085	5.480	0.000	Significant
Z -> Y	0.128	7.899	0.000	Significant

Source: Smart PLS Data Processing Results, 2025

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

Tabel 7 Uji *Indirect Effect Analysis*

Hypothesis	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Description
X1 -> Z -> Y	0.109	4.598	0.000	Significant
X2 -> Z -> Y	0.101	4.663	0.000	Significant

Source: Smart PLS Data Processing Results, 2025

DISCUSSION

The Effect of Digital Literacy on Transaction Decisions

The results showed that digital literacy has a positive and significant effect on transaction decisions using the Quick Response Code Indonesian Standard (QRIS) on students of the Faculty of Economics and Business, Makassar State University. This finding is in line with the first hypothesis (H1) which states that the higher the level of digital literacy possessed by students, the greater their tendency to decide to use QRIS in daily transactions.

Theoretically, these results support the views of (Julien, 2018) and (Ribble, 2015), which explain that digital literacy not only includes technical ability to use devices, but also includes understanding, evaluating information, and managing digital risks. Students who have the ability to access, assess, and manage information through digital media will be more confident in using payment technologies such as QRIS, because they are able to navigate the transaction system independently and understand the benefits and potential risks.

The most dominant indicator in the digital literacy variable is technological skills, namely the ability of students to operate digital applications such as electronic wallets and QR code scanners. Students with good digital skills can understand how QRIS works, trust the system, and feel safe in using it. This is in accordance with the opinion (Park & Shin, 2018) which states that individuals with high digital literacy tend to feel safer and more comfortable in making digital transactions.

In addition, information and data literacy indicators also contribute to decision making. Students with the ability to evaluate transaction information and read privacy or security policies will be more cautious but still trust to make transactions using QRIS. They can compare payment services, understand available promotions, and assess the accuracy of information provided by service providers.

These findings are also in line with the results of previous studies by (Al-Okaily et al, 2020) and (Humayroh, 2024), which state that digital literacy has a significant influence

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

on decisions to use digital financial services, both directly and through security perceptions. Therefore, increasing digital literacy is very important as a strategy to encourage the adoption of QRIS, especially among students who are the main target of non-cash payment system innovation.

Practically, these results indicate that campuses, regulators, and financial service providers need to conduct continuous education on digital literacy so that students not only know how to use QRIS, but also understand how to use it safely and effectively. Improving digital literacy will also strengthen the trust and security aspects, which in turn will positively drive transaction decisions.

The Effect of Trust on Transaction Decisions

The results showed that trust has a positive and significant effect on transaction decisions using QRIS on students of the Faculty of Economics and Business, Makassar State University. These results support the second hypothesis (H2) in this study, which states that the higher the level of student trust in digital payment services, especially QRIS, the greater their tendency to choose QRIS in transactions.

Trust in this context refers to students' belief in the ability, integrity, and goodwill of QRIS service providers in providing a safe, reliable, and satisfying payment system. This finding is consistent with the opinion of (Pavlou, 2016), which states that trust is one of the crucial factors in online transactions because it can reduce perceptions of risk and uncertainty.

The most dominant indicator in the trust variable is integrity, which is the extent to which service providers provide honest, transparent, and trustworthy information to users. Students tend to choose QRIS when they feel that service providers do not misuse personal data, do not manipulate information, and provide a consistent and safe transaction experience.

In addition, the ability indicator of the service provider is also important. Students show high trust when QRIS services run quickly, accurately, and minimize interruptions. When they feel that QRIS provides convenience and efficiency in transactions, the decision to use it will be stronger.

The benevolence indicator also strengthens the influence of trust on transaction decisions. Students feel more trust when service providers show concern for user needs, such as providing responsive customer service, clear privacy policies, and transparency of favorable fees.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

This finding is also in line with research by (Kim, Ferrin, and Rao, 2015) which states that positive user experience, service provider reputation, and reliable security systems are important foundations in building trust in digital transactions. (Kapoor et al, 2022) also emphasize that trust has a mediating role between risk perception and technology adoption decisions.

In the context of FEB UNM students, trust is a significant determining factor because they are a generation that is critical and selective about technology. When students feel that QRIS is able to maintain privacy and provide maximum data security, their confidence to use QRIS as a transaction method increases significantly.

Practically, these results emphasize the importance of QRIS service providers and regulators such as Bank Indonesia to continue to maintain credibility, transparency, and system security guarantees in order to maintain and increase user trust. This trust-building effort can be done through education, improved user experience, and professional complaint handling.

The Effect of Security on Transaction Decisions

The results showed that security has a positive and significant effect on transaction decisions using QRIS on students of the Faculty of Economics and Business, Makassar State University. This finding supports the third hypothesis (H3), which states that the higher the level of security perceptions of students towards using QRIS, the higher their tendency to use QRIS in transactions.

In the context of digital transactions, security is a key factor influencing user decisions. Perceptions of security include students' belief that their personal data will not be misused, transactions will run smoothly without the risk of information theft, and there is a protection system against potential digital threats. This result reinforces the findings of (Chen & Chou, 2019) which states that the perception of security in digital transactions greatly influences the interest and decision to use the service.

The most dominant security indicator in shaping transaction decisions is “protecting user personal data”. Students feel more comfortable using QRIS when they believe that the system does not leak or trade their data. When the system shows transparency in data usage and includes security features such as double authentication or data encryption, the user's level of trust and comfort increases, which ultimately drives the decision to make a transaction.

The indicator “providing confidence in security assurance” also has a great influence. Students who feel confident that the QRIS system is guaranteed security by

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

trusted institutions such as Bank Indonesia are more likely to use the service. The knowledge that QRIS is supervised and regulated by financial authorities increases the perception that this system has a high level of security.

In addition, the indicator “does not misuse users' personal data” shows that students are very concerned about ethical and privacy aspects in digital payment systems. They tend to avoid platforms that have a bad record regarding data breaches, and prefer QRIS because this system is standardized and has user data protection regulations.

This finding is consistent with studies by (Rayyani, 2024) and (Sely, 2024) which confirm that security has a significant influence on users' decisions to use digital payment systems, especially QRIS. Security is considered not only as a technical aspect, but also as a psychological factor that shapes user comfort in transactions.

Practically, these results suggest that to increase the use of QRIS among students, service providers should focus on improving security features, data protection education, and transparency in the use of personal information. The campus can also play a role by providing digital security literacy, so that students are able to recognize safe systems and make wiser transaction decisions.

The Effect of Digital Literacy on Security

The results showed that digital literacy has a positive and significant effect on security perceptions in using QRIS on students of the Faculty of Economics and Business, Makassar State University. This finding supports the fourth hypothesis (H4), which states that the higher a person's level of digital literacy, the higher their perception of security in using digital transaction services such as QRIS.

Theoretically, this result is in accordance with the opinion of (van Deursen and van Dijk, 2014) which explains that individuals with high digital literacy have a better ability to understand and manage digital risks. They are more aware of potential threats such as data theft, online fraud and unauthorized access, and know how to avoid them through proper digital security practices.

Students who have good technological skills such as understanding the functions of the QRIS application security features, using PIN or biometric authentication, and recognizing signs of digital fraud will feel safer when making digital transactions. In addition, information and data literacy skills enable students to evaluate the reliability of payment platforms, read terms and conditions carefully, and understand the privacy policies set by service providers.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

This finding is also reinforced by research (Fauzi and Darmawan, 2020) which found that students with a high level of digital literacy have a higher level of trust and sense of security when using digital services because they understand how the technology works and the security features used. This understanding allows them to take more effective preventive measures.

In the context of QRIS, digitally literate students are able to ensure that transactions are made through authorized channels, do not share personal data carelessly, and pay attention to security signals such as padlock icons or two-step verification when using payment applications. Digital literacy also equips students with the skills to evaluate information from social media, apps or news platforms on digital security issues.

Thus, digital literacy not only helps students to operate technology, but also strengthens their perception of safety during transactions. This makes digital literacy an important foundation in building trust in financial technology and encouraging widespread adoption of digital payment systems.

The implication of this finding is the importance of improving digital literacy among university students, whether through educational curricula, digital skills training, or digital security awareness campaigns. Campuses, technology providers, and regulators such as Bank Indonesia can work together to provide continuous education so that students can use QRIS safely, effectively, and confidently.

Effect of Trust on Security

The results showed that trust has a positive and significant effect on security perceptions in using QRIS on students of the Faculty of Economics and Business, Makassar State University. This finding supports the fifth hypothesis (H5) which states that the higher the level of student trust in digital payment service providers, the higher their perception of the security of these services.

Trust in this context refers to user confidence in the integrity, ability, and goodwill of QRIS service providers in maintaining personal data security and ensuring secure transactions. This is in line with the opinions of (Kshetri, 2017) and (Rahayu & Sari, 2022) which state that trust in digital information systems directly shapes user perceptions of the perceived level of security.

The integrity indicator is one of the important components in building a sense of security. Students tend to feel that the QRIS system is safe if service providers are honest and do not misuse users' personal information. When students see consistency in

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

services, transparency in policies, and no cases of privacy violations, their sense of security will increase.

In addition, indicators of the service provider's ability, such as the speed of the system, the ability to handle technical problems, and the success of the system in preventing disruptions or transaction errors, also strengthen students' security perceptions. Trust in the technical competence of QRIS providers is the main reason why users feel the system is reliable.

The benevolence indicator, which is the extent to which the service provider shows good faith in protecting users, also contributes to an increased sense of security. When QRIS providers provide education about security, provide protection features, and have a clear complaint system, students will feel more protected and believe that their security is a priority.

This finding is in line with studies by (Kapoor et al, 2022) and (Buluati et al, 2023) which state that trust in service providers will increase users' digital security perceptions, especially in the context of financial transactions. In this case, security does not only depend on technological infrastructure, but is also largely determined by users' perceptions and confidence in service providers.

The implications of these results suggest that trust and security are two mutually reinforcing factors. Therefore, building and maintaining user trust is the key to increasing a sense of security in transactions. QRIS service providers need to continue to maintain integrity, transparency, and user protection-oriented services, in order to maintain user loyalty and convenience, especially among students.

The Effect of Digital Literacy on Transaction Decisions Using Qris Through Security

The results showed that digital literacy has a positive and significant effect on transaction decisions using QRIS through security variables as intervening variables. This finding proves the sixth hypothesis (H6) which states that the effect of digital literacy on transaction decisions will be stronger if mediated by security perceptions.

Directly, digital literacy equips students with technical and cognitive skills in using digital devices and understanding how payment systems such as QRIS work. However, this study highlights that digital literacy not only has a direct impact on transaction decisions, but also indirectly shapes security perceptions, which ultimately strengthens students' decisions to use QRIS.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

Students who have a high level of digital literacy are able to understand digital risks, recognize application security features, and know how to protect personal data during transactions. This knowledge forms the perception that QRIS is a safe payment system. By feeling safe, students become more confident and comfortable to transact using QRIS.

This finding is in line with the opinions of (Park & Shin, 2018) and (Humayroh, 2024) which emphasize that high digital literacy not only increases users' ability to access technology, but also increases a sense of security, which ultimately encourages decisions to use financial technology. Students with good digital understanding will be more careful in assessing the reliability of the platform, reading terms and conditions, and understanding how the system protects data and transactions.

Thus, security becomes the bridge between digital literacy and transaction decisions. When students feel safe because of their digital understanding, they are more likely to make transactions with QRIS regularly. This confirms that the effect of digital literacy on transaction decisions is not only direct, but also reinforced by perceptions of security.

The practical implication of this finding is the importance of digital literacy strategies that include digital security aspects, not just technical capabilities. Campuses, service providers, and financial authorities such as Bank Indonesia need to design educational programs that emphasize the skills of using technology as well as understanding risks and protecting digital data. The higher the digital literacy of students, the greater their confidence in the security of the system, and the more likely they are to actively use QRIS.

The Effect of Trust on Transaction Decisions through Security

The results showed that trust has a positive and significant effect on transaction decisions using QRIS through security as an intervening variable. This supports the seventh hypothesis (H7), which states that the effect of trust on transaction decisions will be stronger if mediated by security perceptions.

Directly, trust reflects students' belief in the integrity, ability, and goodwill of QRIS service providers in providing a safe and reliable payment system. However, the findings of this study reveal that the influence of trust does not only end in transaction decisions, but is strengthened through perceptions of system security. This means that when students feel that the QRIS system can be trusted, they will also feel safer when

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

transacting, and this sense of security is what encourages them to make decisions to use QRIS.

Trust indicators such as integrity (honesty of service providers), benevolence (goodwill towards users), and ability (technical ability) are proven to contribute in shaping the perception that the QRIS system has a high level of security. For example, when QRIS service providers consistently safeguard user data, are transparent in their services, and prompt in handling complaints, users will perceive that the system is safe to use in daily transactions.

This research reinforces studies from (Kapoor et al, 2022) and (Buluati et al, 2023) which state that trust in digital systems has an indirect influence on user decisions through perceived security. In other words, trust creates a sense of security, and a sense of security strengthens the decision to use digital services.

In the context of FEB UNM students, this finding becomes very relevant because students are active users of technology and tend to be careful in choosing transaction platforms. They not only consider convenience, but also data protection and service provider reputation. When they believe that the QRIS provider has a strong protection system and does not misuse data, then they will feel safe and more confident in making the decision to use QRIS as the main transaction tool.

The implication of these findings is that QRIS service providers need to build trust as the main foundation for creating a sense of security among users, especially students. This effort can be done by maintaining reputation, increasing transparency, providing security education, and ensuring the data protection system runs consistently. Well-maintained trust will create a sense of security, and ultimately increase the adoption rate of QRIS.

REFERENCES

Adinda, M. (2022). Analisis Faktor-Faktor Yang Mempengaruhi Gen-Z Dalam Penggunaan Quick Response Code Indonesian Standars (QRIS) Sebagai Teknologi pembaayaran Digital. *Jurnal Contemporary Studies In Economic, Finance, and Banking*, *1*(1), 167–176.

Al-okaily, M., Lutfi, A., Alsaad, A., Taamneh, A., & Alsyouf, A. (2020). Technology in Society The Determinants of Digital Payment Systems ' Acceptance under Cultural Orientation Differences : The Case of Uncertainty Avoidance. *Technology in Society*, *63*(August). https://doi.org/https://doi.org/10.1016/j.techsoc.2020.101367

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

Asyifa, NL, Rosini, I., & Nofryanti, N. (2024). Pengaruh Persistensi Laba dan Pertumbuhan Laba Terhadap Kualitas Laba dengan Corporate Governance Sebagai Variabel Moderasi. *Ekonomi: Jurnal Ekonomi dan Bisnis* , *8* (1), 491-496.

Buluati, R., Karundeng, D. R., & Suyanto, M. A. (2023). Pengaruh Kemudahan, Keamanan Dan Kepercayaan Bertransaksi Terhadap Minat Menggunakan QRIS (Quick Response Indonesian Standard) Pada Pelaku UMKM Di Kabupaten Boalemo. *Wahana: Tridarma Perguruan Tinggi*, *75*(2), 33-47.

Chen, L., Jia, J., Xiao, M., Wu, C., & Zhang, L. (2024). A study on the influence of digital literacy on elderly user's intention to identify social media false information. *The Electronic Library*, *42*(5), 701–721.

Darmawan, R. S., & Fauzi, A. (2020). Implementasi Akad Ijarah Pada Pembiayaan Pendidikan di KSSU Harum Dhaha Kediri. *Jurnal At-Tamwil: Kajian Ekonomi Syariah*, *2*(1), 51-65.

Dash, G., & Paul, J. (2021). CB-SEM vs PLS-SEM methods for research in social sciences and technology forecasting. *Technological Forecasting and Social Change*, *173*, 121092.

Ghozali, I. (2018). *Aplikasi Analisis Multivariate Dengan Program IBM SPSS 25.* Badan Penerbit Universitas Diponegoro.

Ghozali, Imam, H. L. (2015). *Konsep Teknik Aplikasi Menggunakan Smart PLS 3.0 untuk Penelitian Empiris,*. Badan Percetakan Undip.

Humayroh, S. S. (2024). Pengaruh Literasi Keuangan, Literasi Digital, Dan Keamanan Informasi Terhadap Keputusan Penggunaan Qris Pada Mahasiswa Di Universitas Muhammadiyah. Ponorogo. *Doctoral Dissertation, Universitas Muhammadiyah Ponorogo*.

Julien, H. (2018). Digital Literacy in Theory and Practice. Encyclopedia of Information Science and Technology. *Encyclopedia of information science and technology*, 22–32. https://doi.org/https://doi.org/10.4018/978-1-5225-7659-4.ch003.

Kapoor, A., Guhathakurta, D., Mathur, M., Yadav, R., Gupta, M., & Kumaraguru, P. (2022). In Companion proceedings of the web conference 2022.*). Tweetboost: Influence of social media on nft valuation*, 621–629.

Khalid, M., Rahman, M. G., & Setiawan, Y. (2023). Memanfaatkan Potensi QRIS (Quick Response Indonesian Standard) untuk Meningkatkan ZIS (Zakat Infak Shodaqoh). *Jurnal Religion: Jurnal Agama, Sosial, Dan Budaya*, 1172–1179.

Kshetri, N. (2017). Blockchain's roles in strengthening cybersecurity and protecting privacy. *Telecommunications policy*, *41*(10), 1027-1038.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

Park, S., & Shin, S. (2018). Digital literacy and its impact on the use of digital payment systems. *Journal of Information Technology Education*, 1–20.

Pavlou, M., Ambler, G., Seaman, S., Iorio, M. De, & Omar, R. Z. (2016). *Review and evaluation of penalised regression methods for risk prediction in low-dimensional data with few events*. *October 2015*. https://doi.org/10.1002/sim.6782

Rahayu, S., Sari, P., & Yatun, R. F. (2020). Pengaruh Persepsi Manfaat, Persepsi Kemudahan, Persepsi Risiko Dan Persepsi Kepercayaan Terhadap Minat Menggunakan Gopaylater Pada Aplikasi Gojek. *JURNAL JUKIM*, *1*(6), 114–122.

Rayyani, W. O., Saban, A., Muchran, M., Soraya, Z., Sari, A., & Insani, N. (2024). Applying the UTAUT Model to ZIS Digital Payments: Insights from Southeast Asia. *Review of Integrative Business and Economics Research*, *13*(4), 243–261.

Ribble, M. (2015). Digital Citizenship in Schools: Nine Elements All Students Should Know (3rd ed.). *International Society for Technology in Education.*

Seputri, W., & Yafiz, M. (2022). QRIS Sebagai Alat Transaksi Digital Generasi Z: Analisis Faktor: Ekonomi Keuangan. *Adzkiya: Jurnal Hukum Dan Ekonomi Syariah*, *10*(02), 139-148.

Sulistyawati, Wiwik, W. Wahyudi, and S. T. (2022). Analisis (Deskriptif Kuantitatif) Motivasi Belajar Siswa Dengan Model Blended Learning Di Masa Pandemi Covid19. *Jurnal Matematika dan Pendidikan Matematika, 13*(1), 68–73.

Van Deursen, A. J., Courtois, C., & van Dijk, J. A. (2014). Internet skills, sources of support, and benefiting from Internet use. ..*International journal of human-computer interaction*, *30*(4), 278–290.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.