RESEARCH ARTICLE

Understanding undergraduate students' adoption of QRIS: The role of benefits, risks, and convenience

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ABSTRACT

This study explores undergraduate students' adoption of the Quick Response Indonesian Standard (QRIS) for cashless transactions by examining the role of benefits, risks, and convenience. Conducted at the Faculty of Economics and Business, Universitas Samudra, the research involved 659 students from the 2020, 2021, and 2022 cohorts, with a final sample of 248 respondents selected using proportional stratified random sampling. Data were analyzed using multiple regression analysis. The findings reveal that benefits, risks, and convenience significantly influence students' adoption of QRIS, both individually and collectively. The coefficient of determination indicates that these three factors explain 5.8% of the variance in adoption behavior. These results highlight the importance of enhancing perceived benefits, mitigating potential risks, and improving ease of use to promote wider adoption of QRIS among undergraduate students.

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1. Introduction

The advancement of time aligns with the progression of technology. This also applies to transaction tools, which can now be used in a cashless manner. The development of payment technology has replaced the primary function of cash with non-cash alternatives (Rafferty & Fajar, 2022). Digital money holds a significant role as a substitute for physical cash in financial transactions. Today, society has recognized the importance of non-physical transaction tools, whether in paper or coin form, by utilizing electronic money (Adiyanti & Pudjihardjo, 2014).

This phenomenon also impacts the business world, as a company's ability to compete is influenced by its capacity to adapt to technological advancements (Hasan et al., 2021). The rise of digital payment systems has encouraged more users, making Indonesians

increasingly familiar with and accustomed to digital transactions in line with technological developments (Handayani & Soeparan, 2022). The presence of QRIS has also significantly contributed to financial inclusion, particularly among students (Triyanti et al., 2024).

A survey conducted by the Indonesian Internet Service Providers Association (APJII) reported that the number of internet users in Indonesia reached 215.63 million during the 2022-2023 period. This aligns with the increasing use of technology in banking activities, such as mobile banking and digital wallets or e-wallets (Sia, 2022). In response, the government has fully supported the digital payment system revolution by implementing QR code technology. Various companies, including banks, telecommunications firms, payment gateways, and transportation services, have introduced their products to the market, such as OVO, Dana, Go-Pay, T-Money, Money Pro, Rekening Ponsel, Jenius, Sakuku, Doku, and others (Indonesian Internet Service Providers Association, 2023).

QR code technology is considered an innovative solution that facilitates various systems by ensuring fast data processing. Its advantages include accurate data storage and utilization, as well as physical durability (Akbar et al., 2019). However, concerns remain regarding QRIS usage, particularly the threat of "quishing"—a combination of QR codes and phishing—where cybercriminals can obtain personal and sensitive information. This issue reflects the increasing public interest in using electronic money, leading to a sharp rise in users over time, despite it not yet being the primary transaction method (Bank Indonesia, 2019).

This study aims to achieve the following objectives: first, to examine how benefits influence students' interest in using QRIS; second, to explore how risks affect students' willingness to adopt QRIS; and third, to determine the impact of convenience on students' adoption of QRIS. Lastly, this study will analyze how these four factors interact with one another.

2. Literature review

2.1. Benefits of cashless transactions

Benefits refer to the usefulness or utility of a system (Jogiyanto, 2019). Perceived usefulness is the extent to which an individual believes that using a particular technology will enhance their performance (Sati & Ramaditya, 2020). Individuals who find it easier to utilize technology tend to perceive greater benefits. Several factors influence users' perception of benefits, including: (a) Providing convenience in making payment transactions; (b) Reducing the time required for payment transactions; (c) Offering additional advantages from completed transactions; (d) Ensuring security during

payment transactions; and (e) Increasing efficiency in conducting payment transactions (Robaniyah & Kurnianingsih, 2021).

H1: The benefits of cashless transactions significantly influence the interest of students in using QRIS.

2.2. *Risks of cashless transactions*

Risk refers to the perceived uncertainty consumers experience when making decisions related to specific purchases (Liliani, 2020). According to Anjani et al. (2019), perceived risk is a primary reason why people hesitate to shop online, as the absence of direct interaction between buyers and sellers can create varying risk perceptions among individuals. The following are indicators of risk: (a) The possibility of theft risk; (b) High transaction costs; and (c) The potential risk of fraud (Pavlou in Pringgadini & Basiya, 2022).

H1: The risk of cashless transactions significantly influence the interest of students in using QRIS.

2.3. *Convenience of cashless transactions*

Convenience can be defined as an individual's belief in the benefits that arise from using a particular technology (Winardi, 2015). According to Pontoh et al. (2022), ease of use refers to the degree to which an individual believes that a technology is easy to understand and operate. Nurdin et al. (2020) identified several indicators of ease of use, including ease of learning, clarity and understandability, ease of use, flexibility, and controllability.

H1: The convenience of cashless transactions significantly influence the interest of students in using QRIS.

3. Research methodology

The research participants were undergraduate students from the Faculty of Economics at Universitas Samudra, enrolled between the academic years 2020–2022. Both qualitative and quantitative data were utilized in this study. Quantitative data consisted of the total number of students from the Faculty of Economics and Business at Universitas Samudra and survey responses. Meanwhile, students' interest in using QRIS was better characterized by qualitative data.

The primary data for this study were obtained from interviews, participant observations, and surveys, while secondary data were collected from books, journals,

and internet sources relevant to the research topic. Various statistical tests were employed to analyze the data, including multiple linear regression, t-tests, F-tests, and coefficient of determination analysis. The Likert scale was used as a measurement tool. The Likert scale is a useful instrument for assessing an individual's attitude toward a particular issue or event. In this study's questionnaire, the Likert scale ranged from 1 to 5: Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), Strongly Disagree (1) (Sugiyono, 2018).

The participants in this study comprised 659 undergraduate students enrolled in the Faculty of Economics at Universitas Samudra between the academic years 2020–2022. Specifically, there were 207 students from the 2020 cohort, 114 students from the 2021 cohort, and 265 students from the 2022 cohort. This study employed a proportional stratified random sampling technique to collect data by selecting a sample from each class.

To determine a representative sample size, the author used Slovin's Formula, which calculates the appropriate sample size based on the total population and the desired margin of error. The formula is as follows:

$$n = \frac{N}{1+(N.e^2)} \quad \text{.. (1)}$$

where:

$n =$ sample size

$N =$ total population

$e =$ margin of error (typically 1% or 0.01, 5% or 0.05, and 10% or 0.1, as determined by the researcher)

Using Slovin's formula with a 5% margin of error, the sample size for this study was calculated as:

$$n = \frac{646}{1+(646 \times 0.05^2)} = 265 \text{ respondents}$$

Thus, 265 respondents were selected as the research sample to represent the study population.

4. Results and discussion

4.1. Factors influencing undergraduate students to adopt QRIS

To determine the extent to which the independent variables (benefits, risks, and convenience) influence the dependent variable (interest in using QRIS) among students of the Faculty of Economics at Universitas Samudra, a multiple linear regression analysis was conducted. The results are presented in Table 1.

Table 1. Estimation results of QRIS adoption

Variable	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Constant	2.244	0.648		4.532	0.000
Benefits (X_1)	-0.102	0.038	-0.169	-2.704	0.007
Risks (X_2)	0.087	0.031	0.177	2.830	0.005
Convenience (X_3)	0.056	0.028	0.126	2.037	0.043
Goodness of fit					
Adjusted R-squared	0.058				
F-statistic	6.074				
Prob(F-statistic)	0.001				

Note: Y is QRIS adoption

Source: Author's processed data

The interpretation of this multiple linear regression analysis equation is as follows: (a) The constant value is 2.244, assuming that the benefit variable (X1), risk variable (X2), and convenience variable (X3) are all equal to zero; (b) The benefit variable (X1) shows a negative effect on interest in using QRIS. If benefits increase by one unit, interest in using QRIS will decrease by 0.102, assuming that the risk (X2) and convenience (X3) variables remain constant; (c) The risk variable (X2) shows a positive effect on interest in using QRIS. If risks increase by one unit, interest in using QRIS will increase by **0.087**, assuming the benefit and convenience variables remain constant; and (d) The convenience variable (X3) shows a positive effect on interest in using QRIS. If convenience increases by one unit, interest in using QRIS will increase by 0.056, assuming the benefit and risk variables remain constant.

Table 1 also shows an Adjusted R Square value of 0.058 (5.8%), indicating that 5.8% of interest in using QRIS is influenced by benefits, risks, and convenience. The remaining 94.2% is influenced by other variables not examined in this study.

The hypothesis testing results in Table 1 indicate the following: (a) This study found a significant relationship between benefits (X1) and interest in using QRIS (Y), as evidenced by a t-significance value of 0.007<0.05. Therefore, this theory is accepted, confirming that benefits influence students' interest in using QRIS; (b) The effect of risk (X2) on interest in using QRIS (Y) was confirmed, as demonstrated by a significance value of 0.005<0.05. This result supports the hypothesis that risk affects students' interest in using QRIS; and (c) The effect of convenience (X3) on interest in using QRIS (Y) was supported, with a significance value of 0.043<0.05. This confirms that convenience influences students' interest in using QRIS.

In Table 1, the F-significance value is 0.001<0.05, supporting the hypothesis that benefits, risks, and convenience significantly affect students' interest in using QRIS at the

Faculty of Economics and Business at Universitas Samudra. Therefore, the research hypothesis is accepted and verified.

5. Discussion

5.1. The effect of benefits on undergraduate students' adoption of QRIS

The study results indicate that benefits have a negative and significant effect on students' interest in using QRIS. According to respondents, QRIS provides advantages for digital transactions. However, some students believe that the perceived benefits are still minimal, making it difficult to increase interest in using QRIS. For example, the transaction limit is a constraint that reduces students' interest in QRIS usage.

As explained in the Technology Acceptance Model (TAM), individuals frequently use a technology if it enhances their performance. However, this finding contradicts previous studies by Fadlillah et al. (2021) and Alfani & Ariani (2023), which found that benefits have a significant positive effect on interest in using QRIS.

5.2. The effect of risk on undergraduate students' adoption of QRIS

The study findings indicate that risk significantly influences interest in using QRIS. According to respondents, risk is an important factor in determining their interest in QRIS. This suggests that students who believe QRIS can protect their privacy and ensure high data security are more likely to use it for financial transactions. This result aligns with the studies of Rahma (2022) and Alfani & Ariani (2023), which also found that risk has a significant effect on interest in using QRIS.

5.3. The effect of convenience on undergraduate students' adoption of QRIS

The study results indicate that convenience significantly influences interest in using QRIS. According to respondents, convenience is a crucial factor affecting their interest in QRIS. They are interested in using QRIS because of its ease of use, such as simple payment processes via QR code scanning, fast transactions, and flexibility (Nurqamarani et al., 2024; Saripuddin et al., 2023).

Overall, benefits, risks, and convenience significantly affect students' interest in using QRIS at the Faculty of Economics and Business at Universitas Samudra. This is supported by a significance value of 0.001<0.05, confirming that the null hypothesis is accepted in this study. Thus, these three factors play a crucial role in shaping students' interest in using QRIS. These findings are consistent with previous research by Triyanti et al. (2024),

Fadlillah et al. (2021), and Rahmawati & Murtanto (2023), further validating the study's conclusions.

6. Conclusion

This study provides valuable insights into the factors influencing undergraduate students at the Faculty of Economics, Universitas Samudra, in adopting QRIS as a digital payment method. The findings from the multiple linear regression analysis reveal a unique dynamic: while perceived risk and ease of use positively drive students' interest in using QRIS, perceived usefulness unexpectedly exerts a negative influence.

The partial (t-test) analysis confirms that all three factors—perceived usefulness, risk, and ease of use—significantly shape students' adoption behavior. Meanwhile, the simultaneous (F-test) analysis further reinforces that these variables collectively exert a meaningful impact. However, the coefficient of determination (R^2) indicates that these factors account for only 5.8% of the variance in adoption interest, suggesting that other unexplored elements contribute to students' decision-making process.

Given the rapid digital transformation in financial transactions, these findings underscore the need for further research to uncover additional determinants influencing QRIS adoption. Future studies could explore psychological, technological, or socio-economic aspects to gain a more comprehensive understanding of the factors driving digital payment preferences among university students.

Conflict of interest

The authors declare no conflicts of interest related to this publication.

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