The Effect of Perceived Benefits, Perceived Convenience, and Perceived Security On Decision To Use QRIS

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Article Info:	Abstract
	This study aims to examine and analyze the influence of Perceived Benefits, Perceived Ease, and Perceived Security on the decision to use QUICK RESPONSE CODE INDONESIA (QRIS). The population in this study consists of students at Mercu Buana University Meruya who use QRIS. The sampling method employed convenience sampling using non-probability sampling, with a sample size of 120 respondents. This is a quantitative study using a survey method for data collection, with the research instrument being a questionnaire using an ordinal scale as the research tool, and data analysis was conducted using Partial Least Squares. The results of the study prove that Perceived Benefits, Perceived Ease, and Perceived Security have a positive and significant influence on the decision to use QRIS.

INTRODUCTION

The advancement of digital technology has fundamentally transformed the financial landscape, enabling more efficient and secure transactions through innovations such as Financial Technology (Fintech) (Ardana et al., 2023). In Indonesia, the adoption of fintech has been particularly prominent in the payment sector, driven by lifestyle changes and increased demand for convenience (Danuri et al., n.d.). This shift has paved the way for the widespread implementation of cashless payment systems (Kadek et al., 2022).

One such innovation is the Quick Response Code Indonesian Standard (QRIS), a unified QR code developed by Bank Indonesia to standardize digital payment systems across multiple platforms (Bank Indonesia, 2020). QRIS allows users to make payments using various e-wallet applications with a single QR code, streamlining transactions for both consumers and merchants (Dewanty & Mustofa, 2023). The implementation of QRIS aims not only to support financial inclusion but also to foster economic efficiency and growth (Ahdiat, 2023).

According to data from the Indonesian Payment System Association (ASPI), QRIS transactions reached approximately 128 million in December 2022 alone, with a total transaction value of IDR 12.2 trillion—marking the highest record in both transaction volume and nominal value to date. Over the course of 2022, the total number of QRIS transactions nationwide exceeded 1 billion, reflecting a significant year-over-year growth of 117.59% compared to 2021. The total value of these transactions amounted to IDR 99.98 trillion, highlighting the rapid acceleration in the adoption of QRIS as a preferred digital payment method in Indonesia (Ahdiat, 2023).

However, the adoption of QRIS is not without challenges. Prior to QRIS, fragmentation among QR code systems caused inefficiencies, increased the risk of fraud, and raised concerns about data security (Mas Rara Tri Retno Herryani, 2023). These issues underscored the need for a

unified and secure payment mechanism that enhances user confidence while maintaining usability and benefit (Irvianti et al., 2023).

To address these concerns, this study examines three critical perceptions that influence the decision to use QRIS: Perceived Benefits (X1), Perceived Convenience (X2), and Perceived Security (X3). Perceived benefit reflects users' belief that QRIS enhances efficiency and simplifies payment processes (Puji Muniarty et al., 2023). Perceived ease of use refers to the extent to which users believe QRIS is simple and understandable, affecting technology acceptance (Sun & Zhang in Asja et al., 2021). Meanwhile, perceived security represents the user's confidence in the system's ability to protect sensitive personal and financial data (Kumala et al., 2020).

This study aims to explore how these three perceptions affect the decision to use QRIS (Y) among Mercu Buana University Meruya students. The formulation of this research stems from existing empirical gaps, as previous studies reported mixed findings regarding the influence of benefit and security perceptions on QRIS adoption (Foster et al., 2022).

By understanding the key drivers of user decisions, this study contributes to both theoretical development and practical application. Theoretically, it extends the Technology Acceptance Model (TAM) by integrating perceived security as a key determinant alongside perceived benefit and convenience (Davis et al., 1989). Practically, the findings offer valuable insights for stakeholders such as Bank Indonesia, fintech companies, and merchants to enhance QRIS adoption through improved system design, awareness campaigns, and security features (Bank Indonesia, 2020).

It is expected that this research will demonstrate how strong perceptions of benefit, convenience, and security positively influence the intention and decision to use QRIS. By providing empirical evidence from the perspective of young consumers, this study aims to encourage broader adoption of QRIS and support Indonesia's transition toward a cashless and digitally inclusive economy.

Problem Formulation

1. Does the perceived benefit influence the decision to use QRIS?
2. Does the perceived convenience influence the decision to use QRIS?
3. Does the perceived security influence the decision to use QRIS?

LITERATURE REVIEW

Marketing Management

Marketing management is the process of planning and executing marketing activities to attract and retain customers while ensuring company profitability. Kotler and Keller (2017) define marketing management as identifying target markets and creating, delivering, and communicating superior customer value. Assauri (2018) adds that marketing management involves planning and executing strategies to meet customer needs while achieving business objectives.

Consumer Behavior

According to Kotler & Keller (2017), consumer behavior is a study that examines individuals, groups, and organizations in choosing, purchasing, using, and evaluating products to satisfy their needs and desires. Meanwhile, according to Firmansyah (2018), consumer behavior is an activity closely related to the process of purchasing goods or services.

Financial Technology

Financial Technology refers to the application of technology to deliver financial services in innovative ways. Bank Indonesia (PBI No. 19/12/PBI/2017) classifies fintech as technological

innovation in financial systems that enhance efficiency, security, and reliability. Fintech includes digital payments, investments, lending, and more (Marzuki & Nurdin, 2020).

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), introduced by Davis (1989), explains user acceptance of technology based on two primary beliefs: perceived usefulness and perceived ease of use. According to Davis, these beliefs influence users' attitudes and intentions toward using technology (Davis et al., 1989). Liebana-Cabanillas et al. (in Chohan et al., 2022) emphasize that TAM helps predict actual system usage based on user perception.

Perceived Benefit

Perceived usefulness is defined as the degree of confidence that a person has that the use of a system or technology will improve their performance (Kurnianingsih, 2020). In the context of TAM, this perception is one of the main indicators that drives the intention or decision to use a particular technology (Davis, 1989). According to Jogiyanto (2019), indicators of perceived usefulness include productivity, job performance, importance to the task, and overall uqsefulness.

Perceived Convenience

Perceived convenience is defined as the extent to which individuals believe that a particular technology system is easy to understand and use (Davis, 1986 in Afolo & Dewi, 2022). If users find the system uncomplicated and easy to learn, they are more likely to accept it (Hendra & Scenda, 2020). Indicators of perceived ease of use include easy to learn, easy to use, clear and easy to understand, and becoming skilled.

Perceived Security

Perceived security reflects the level of user confidence in the security of technology systems in protecting personal information and financial transactions (Irawan & Affan, 2020). When perceptions of security are low, users tend to be reluctant to use the system (Zulfahmi et al., 2019). According to Heriyana (2020), indicators of perceived security include security guarantees and data confidentiality.

Decision To Use

According to Alistriwahyuni (2019), usage decisions are consumer behaviors influenced by information from various sources, including marketing efforts and cultural environmental factors. Meanwhile, according to Schiffman (2004: 547), usage decisions are the selection of two or more available alternatives, meaning that for a person to make a decision, several alternatives must be available. According to Pribadi & Gunawan (2020), indicators of usage decisions in online transactions include ease of operation, profitability, alignment with needs, and lower user costs.
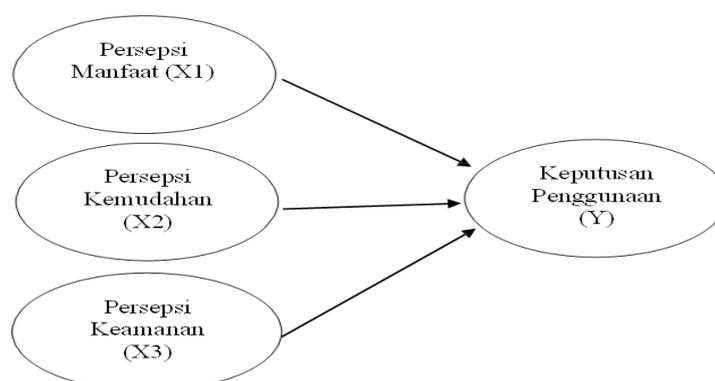
Hypothesis

Therefore, the hypothesis of this study is formulated as follows:
H1: Perceived benefits have a positive influence on the decision to use QRIS.
H2: Perceived convenience has a positive influence on the decision to use QRIS.
H3: Perceived security has a positive influence on the decision to use QRIS.

Figure 1. Research Framework

METHODS

This study used a quantitative research method with a survey approach to examine the effect of Perceived Benefits, Perceived Convenience, and Perceived Security on the decision to use QRIS among Mercu Buana University Meruya Students. The research was designed as a causal-explanatory study to investigate causal relationships between variables using a structured questionnaire. The study utilized a 5-point Likert scale, ranging from "Strongly Disagree" (1) to "Strongly Agree" (5), to measure respondent attitudes toward each indicator. The Likert scale was chosen for its ability to capture intensity of attitudes and perceptions in behavioral research.

The population in this study comprised students of Mercu Buana University Meruya who had previously used QRIS in their transactions. Given the wide adoption of QRIS among young users, this demographic provided relevant and reliable insights into user perceptions. To determine the sample, the study used a non-probability sampling method, specifically convenience sampling, based on the availability and willingness of respondents.

Since the population size is not known precisely, the determination of the research sample size refers to (Hair et al., 2021), which explains the research sample size using a ratio of 5 times the number of indicators. This depends on the number of indicators used in all variables. Based on these guidelines, the technique used by the researcher to determine the minimum sample size for this study is 5 times larger than the indicators used to measure each construct, calculated as follows: Sample = Number of indicators x 5 = 24 x 5 = 120. Based on these calculations, the sample that the researcher will use is 120 respondents.

RESULTS AND DISCUSSION

Respondents' Profile

Based on the data presented in Table 1, it can be seen that the majority of respondents were female, accounting for 67.5% of the total, while male respondents made up 32.5%. In terms of age distribution, most respondents were between 20 and 25 years old (84.2%). Regarding faculty background, more than half of the respondents (54.2%) came from the Faculty of Economics and Business.

Tabel 1. Respondents' Profile

Demographic Profile		Frequency	Percentage (%)
Gender	Male	39	32,5%

	Female	81	67,5%
Age	Less than 20	10	8,3%
	20 - 25	101	84,2%
	25 - 30	9	7,5%
Faculty	Faculty of Design and Creative Arts	10	8,3%
	Faculty of Engineering	11	9,2%
	Faculty of Economics and Business	65	54,2%
	Faculty of Computer Science	9	7,5%
	Faculty of Psychology	7	5,8%
	Faculty of Communication Studies	18	15%

Convergent Validity Test Results

Based on Table 2, it can be seen that there is an invalid loading factor or outer loading value because it has a value of < 0.7, namely the PKMD1 indicator, so the model must be recalculated.

Tabel 2. Convergent Validity Test

| Variable	Indicator	Outer Loading	Description
Perceived Benefits (X1)	PM1	0.900	**Valid**
	PM2	0.912	**Valid**
	PM3	0.798	**Valid**
	PM4	0.808	**Valid**
	PM5	0.817	**Valid**
	PM6	0.879	**Valid**
	PM7	0.863	**Valid**
	PM8	0.843	**Valid**
Perceived Convenience (X2)	PKMD1	0.574	**Invalid**
	PKMD2	0.928	**Valid**
	PKMD3	0.882	**Valid**
	PKMD4	0.865	**Valid**
	PKMD5	0.930	**Valid**
	PKMD6	0.914	**Valid**
	PKMD7	0.834	**Valid**
	PKMD8	0.821	**Valid**
Perceived Security (X3)	PKMN1	0.980	**Valid**
	PKMN2	0.979	**Valid**
Decision to Use (Y)	KP1	0.819	**Valid**
	KP2	0.838	**Valid**
	KP3	0.890	**Valid**
	KP4	0.770	**Valid**
	KP5	0.883	**Valid**

The following are the results of recalculating the model after eliminating invalid indicators:

Based on Figure 2 and Table 3, it can be seen that the loading factor or outer loading value has a valid result of > 0.7, making it feasible to conduct further analysis.

Tabel 3. Convergent Validity Test (After Modification)

Variable	Indicator	Outer Loading	Description
Perceived Benefits (X1)	PM1	0.900	**Valid**
	PM2	0.912	**Valid**
	PM3	0.798	**Valid**
	PM4	0.808	**Valid**
	PM5	0.817	**Valid**
	PM6	0.879	**Valid**
	PM7	0.863	**Valid**
	PM8	0.843	**Valid**
Perceived Convenience (X2)	PKMD2	0.923	**Valid**
	PKMD3	0.886	**Valid**
	PKMD4	0.863	**Valid**
	PKMD5	0.936	**Valid**
	PKMD6	0.920	**Valid**
	PKMD7	0.836	**Valid**
	PKMD8	0.820	**Valid**
Perceived Security (X3)	PKMN1	0.980	**Valid**
	PKMN2	0.979	**Valid**
Decision to Use (Y)	KP1	0.819	**Valid**
	KP2	0.838	**Valid**
	KP3	0.890	**Valid**
	KP4	0.770	**Valid**
	KP5	0.883	**Valid**

Figure 2. PLS Algorithm Results (After Modification)
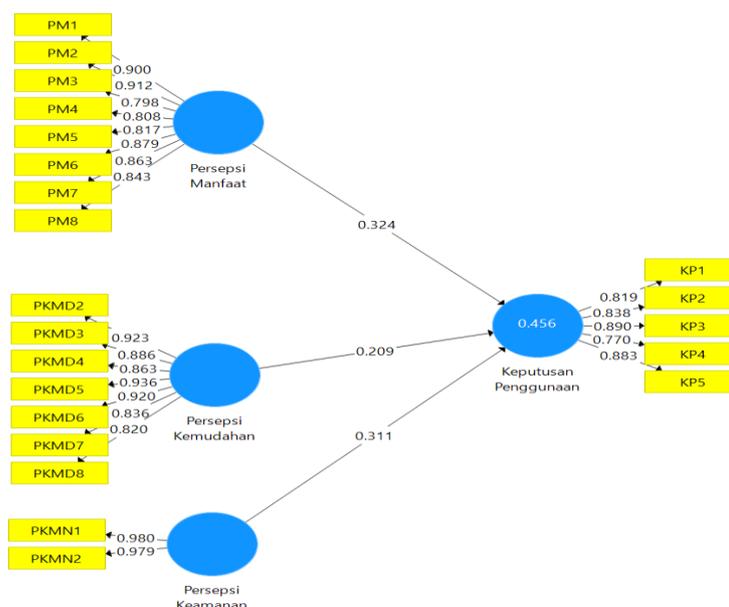
Discriminant Validity Test Results

Discriminant validity testing can be assessed based on cross loading between indicators and their constructs, where indicators can be declared valid if they have the highest loading factor value for the intended construct compared to the loading factor for other constructs (Musyaffi et al., 2022).

Based on Table 4, it can be seen that for the variables of Perceived Benefits, Perceived Ease, Perceived Security, and Decision to Use, all indicators have a close relationship with their variables because the cross-loading values are greater for their variables than for other variables. Therefore, it can be concluded that each latent variable has good discriminant validity because several latent variables still have measures that are highly correlated with other constructs and their factor loadings are > 0.5.

Tabel 4. Results of Discriminant Validity Testing (Cross Loading)

Indikator	X1	X2	X3	Y
PM1	0.900	0.396	0.314	0.463
PM2	0.912	0.415	0.324	0.479
PM3	0.798	0.532	0.316	0.452
PM4	0.808	0.505	0.267	0.369
PM5	0.817	0.379	0.321	0.443
PM6	0.879	0.367	0.355	0.504
PM7	0.863	0.339	0.349	0.483
PM8	0.843	0.467	0.290	0.491
PKMD2	0.426	0.923	0.500	0.494
PKMD3	0.416	0.886	0.505	0.488
PKMD4	0.443	0.863	0.480	0.452
PKMD5	0.483	0.936	0.454	0.507
PKMD6	0.459	0.920	0.472	0.483
PKMD7	0.419	0.836	0.420	0.496

PKMD8	0.412	0.820	0.473	0.363
PKMN1	0.389	0.527	0.980	0.539
PKMN2	0.342	0.516	0.979	0.525
KP1	0.427	0.386	0.387	0.819
KP2	0.452	0.429	0.389	0.838
KP3	0.448	0.502	0.487	0.890
KP4	0.470	0.454	0.492	0.770
KP5	0.481	0.464	0.509	0.883

Average Variance Extracted (AVE)

Another method for assessing discriminant validity is to compare the square root of the average variance extracted (AVE) of each construct with the correlation between the construct and other constructs in the model. A construct is considered a good model if the AVE value of each construct is > 0.5 (Hair et al., 2021). Based on Table 5, it can be concluded that the Average Variance Extracted (AVE) results for each variable are valid because the values are > 0.5.

Tabel 5. AVE Test Result

Variable	Average Variance Extracted (AVE)
Perceived Benefits (X1)	0.728
Perceived Convenience (X2)	0.782
Perceived Security (X3)	0.960
Decision to Use (Y)	0.708

Composite Reliability

Based on Table , it can be concluded that the test results show good and reliable values because all latent variable values have composite reliability and Cronbach's alpha values > 0.7. This indicates that the questionnaire used as a tool in this study is reliable or consistent.

Tabel 6. Composite Reliability & Cronbach's Alpha Test Results

Variable	Cronbach's Alpha	Composite Reliability	Description
Perceived Benefits (X1)	0.946	0.955	**Reliable**
Perceived Convenience (X2)	0.953	0.962	**Reliable**
Perceived Security (X3)	0.959	0.980	**Reliable**
Decision to Use (Y)	0.896	0.923	**Reliable**

R-Square

In assessing the structural model R-Square for each endogenous latent variable as the predictive power of the structural model. Testing of the structural model is done by looking at the R-square value, which is a test of the goodness-of-fit of the model. According to (Ghozali, 2021), an R-Square value of 0.75 can be said to be a strong model, a value of 0.50 is said to be a moderate model, and 0.25 is said to be weak.

Tabel 7. R-Square Result

	R-Square
Decision to Use (Y)	**0.456**

Based on Table 7, it can be concluded that the structural model indicates that the model on the Decision to Use variable can be considered quite good because it has a value of 0.456. The R-square value of 0.456 for the model of the influence of independent latent variables on usage decisions can be interpreted as meaning that 45.6% of the variability in usage decisions can be explained by the variables of perceived benefits, perceived ease, and perceived security, while 54.4% is explained by other variables outside the scope of this study.

Hypotheses Testing

Based on the results of the hypothesis testing presented in Table 8, all hypotheses tested in this study were supported. The results show that perceived benefits have a positive and significant effect on the decision to use QRIS, with a t-statistic value of 3.509 and a p-value of 0.000. Furthermore, perceived convenience was also found to have a significant influence on the decision to use QRIS, with a t-statistic of 2.097 and a p-value of 0.037. Lastly, perceived security showed a significant influence on the decision to use QRIS, with a t-statistic of 3.541 and a p-value of 0.000. All three relationships have p-values below 0.05, indicating that they are statistically significant and support the proposed hypothesis.

Tabel 8. Hypotheses For Direct Relationships

Relationships	Original Sample	T statistics	P Values	Supported
Perceived Benefits → Decisions To Use	0,324	3,509	0,000	Yes
Perceived Convenience → Decisions To Use	0,209	2,097	0,037	Yes
Perceived Security → Decisions To Use	0,311	3,541	0,000	Yes

CONCLUSION

Based on the findings of this study, it can be concluded that perceptions of benefits, convenience, and security significantly positive contribute to shaping students' decisions to use QRIS. Perceptions of benefits indicate that the greater users' confidence in the advantages and efficiency gained from using QRIS, the more likely they are to choose QRIS as a payment method. Meanwhile, perceived convenience is also proven to play an important role, where the ease of understanding and operating the system is the primary driving factor in the decision-making process. On the other hand, perceived security further strengthens users' confidence that transactions using QRIS can be conducted safely and protected from the risk of misuse, thereby encouraging increased trust and interest in using the technology sustainably. These findings underscore that the combination of benefits, ease of use, and security forms the foundation for shaping users' preferences and decisions regarding QR-based digital payment systems.

ADVICE

For Service Providers

It is recommended that QRIS service providers improve system stability and strengthen technical integration with various payment platforms to minimize disruptions during transactions, improve education and guidance on simpler and easier-to-understand usage, and increase transparency and awareness regarding the digital security system used.

For Future Researchers

It is hoped that this will expand the scope of variables used, such as adding factors such as trust, perceived risk, or user experience, to gain a more comprehensive understanding of digital payment usage behavior.

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