QRIS as a Drivers of Product Distribution Flows in Indonesia: Factors of Consumer Purchasing Behavior in the Use of Fintech Payments

Ariani BAKHITAH[1], Ricardo INDRA[2], Wandy HALIM[3], Vicky FERBIAN[4], Zinggara HIDAYAT[5]

Abstract

Purpose: Consumers can experience better service for distribution of products with payment technology such as QRIS (Quick Response Code Indonesian Standard) compared to conventional purchase methods. This research aims to determine the experience of QRIS service users in Indonesia. Perceived Usefulness, Ease of Use, and Perceived Security were independent factors. Behavioral Intention to Use is the dependent variable. Furthermore, Word of Mouth Attitude is an intervening variable. **Research Design, Data, and Methodology:** Involving active QRIS users in a survey-based quantitative study in Indonesia. A survey sample of 400 people was taken from data records of 30.87 million QRIS users in Indonesia. Data were analyzed using SEM-PLS. **Results:** Show that Perceived Usefulness and Perceived Ease of Use significantly impact Attitudes Word of Mouth, and Behavioral Intention to Use. This research also found that Behavioral Intention to Use does not significantly impact Perceived Security. **Conclusion:** QRIS, as a revolutionary innovation, offers faster payments than previous methods, with a payment time of no more than one minute. QRIS is seen as valuable, simple, and safe, disseminating information to the public and continuing to use QRIS. The implications of this research are very significant in accelerating the flow of distribution of goods and services and facilitating transactions.

Keywords: Attitude of Word-of-Mouth, Behavioral Intention to Use, Distribution Flow, Perceived Usefulness, Perceived Ease of Use, Perceived Security, QRIS

JEL Classification Code: E44, F31, F37, G15

1. Introduction

Distribution of products (goods and services) occurs due to transactions between sellers and buyers. Financial technology speeds up the transaction process and, therefore, can encourage the acceleration and expansion of product distribution. QR code-based digital payments are becoming increasingly common. This development shocked people when they learned that digital payments changed their

1 First Author. Graduate Student, Communication Department, Master of Strategic Marketing Communication, Binus Graduate Program, Binus University, Indonesia 11480. Email: arianii.bakhitah@gmail.com

2 Corresponding Author or Second Author. Senior Lecturer, Magister of Communication, Department, Strategic Marketing Communication, Binus University, Indonesia 11480. Email: Ricardo.indra@binus.ac.id

3 Third Author. Graduate Student, Communication Department, Master of Strategic Marketing Communication, Binus Graduate Program, Binus University, Indonesia 11480. Email: seewandy@gmail.com

4 Fourth Author. Graduate Student, Communication Department, Master of Strategic Marketing Communication, Binus Graduate Program, Binus University, Indonesia 11480. Email: vickyferb2@gmail.com

5 Senior Lecturer, Magister of Communication, Department, Strategic Marketing Communication, Binus University, Indonesia 11480. Email: z.hidayat@binus.edu

shopping experience. Since 17 August 2019, the Quick Response Code Indonesian Standard (QRIS), a QR code payment system established by Bank Indonesia and the Indonesian Payment System Association (ASPI), has been used in Indonesia. The direction of development of this payment method is to make it easier, faster, and safer for users.

For payments made via servers, e-wallets, and mobile banking, there is a QR code called QRIS. All users of the QR code payment system (both domestic and international) are required to use QRIS according to Bank Indonesia Regulation No. 21/18/2019. All bank and non-bank payment applications can utilize QRIS at all stores, merchants, kiosks, parking areas, and tourist attractions displaying the QRIS logo.

However, not all consumers can adopt this new technological application (QR codes); users still frequently use cash, debit cards, and credit cards for payments. Additionally, differing national conditions, varying timeframes, and distinct cultures can influence the progress of the implementation process and the use of QR codes (Thi Khue Thu Ngo & Thu Hang Nguyen, 2021).

A product's Perceived Ease of Use and Perceived Usefulness may influence the user experience. Simultaneously, the payment method's Perceived Security is recognized as another significant predictor. Suppose users perceive QR codes as beneficial, simple, secure, and easy to use during transactions. In that case, this can enhance a positive image and increase the likelihood of word-of-mouth recommendations, sustained usage, and habitual service utilization (Zhong & Moon, 2022).

When users perceive payment using QR codes as a good, convenient, beneficial, and appealing idea, it will enhance the intentional usage behavior. Users feel a positive experience with QR code payments because they are easy to use and beneficial (Panupong & Rawin, 2021).

In a case study in another country, QR code payments have shown factors influencing their usage. Adopting QRIS (Quick Response Code Indonesian Standard) in Indonesia is increasing. Still, there hasn't been further research regarding the behavioral intention to use QRIS, considering different conditions, cultures, and time frames compared to similar studies. This is because QRIS payment methods will continue to evolve. It is essential to understand how people experience using QRIS services in Indonesia. When the public perceives the usefulness, ease of use, and security of using QRIS payment methods, this experience will determine their word-of-mouth behavior, ultimately leading to a consistent intention to use QRIS.

Given the current situation, it is critical to concentrate on QRIS usage following its acceptance as a payment mechanism in Indonesia. The behavioral intention to use it as the intended implementation will be influenced by perceived usefulness, perceived ease of use, perceived security, and word-of-mouth attitudes.

This research holds significant benefits for business owners and users. Business owners should utilize QRIS to facilitate users, and users can be educated, perceive its benefits, experience its usefulness, and feel its security, which can ultimately increase their behavioral intent to use QRIS in their transactions.

2. Literature Review

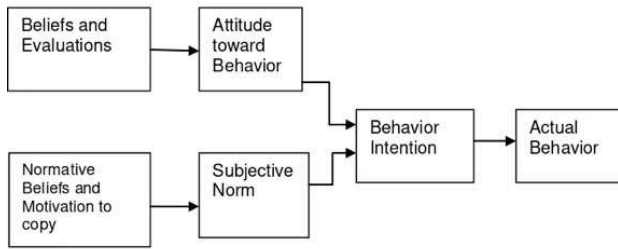### 2.1. Theory Reasoned Action

The Reasoned Action Theory (TRA) examines the relationship between attitudes and behaviors in human activities. It forecasts how people will behave based on their current attitudes and intentions. Anticipated outcomes determine a person's decision to take specific actions (Fishbein & Ajzen, 1975).

The purpose of TRA is to discover what drives a person's behavior. The Theory of Reasoned Action (TRA) states that someone's desire to conduct a specific action is critical for deciding whether to execute that action. Actual activities begin with the intention to perform them. Having convictions and taking action will yield results (Fishbein & Ajzen, 1975).

The Theory of Reasoned Action includes the following elements: First, Behavior. The Theory of Reasoned Action (TRA) predicts why people do what they do. The four concepts that shape behavior are actions, goals, context, and timing (Fishbein & Ajzen, 1975);

Second, Attitude. Attitude is one of the elements of behavioral intention that takes into consideration sentiments, according to the Theory of Reasoned Action (TRA). Two elements influence this point of view: strength and belief in the behavior and the evaluation of outcomes resulting from the conduct taken. Your feelings about the behavior can be positive, negative, or neutral. There is a correlation between attitude and development: when someone believes that behavior will yield desired outcomes, they have a favorable mindset. Conversely, if someone believes that behavior will lead to undesirable or harmful effects, they are likely to have a negative attitude (Fishbein & Ajzen, 1975);

Lastly, Subjective Norms. Subjective norms relate to the perceptions of family members, friends, and coworkers that can influence behavior. Family and friendship networks with social media make it easier for everyone to recommend and influence purchasing decisions. The feeling of societal pressure to accept or reject a behavior is an example of subjective norms (Fishbein & Ajzen, 1975).

Figure 1: Theory of Reasoned Action

2.2. Technology Acceptance Model

The Technology Acceptance Model (TAM) is the most commonly used and effective model for explaining user technology adoption behavior (Davis, 1989).

Davis identified four critical factors in adopting technology usage: (1) Perceived Usefulness, where users perceive an improvement in performance when utilizing the system; (2) Perceived Ease of Use measures how simple technology is believed to be to use and how little customer effort is required; (3) Behavioural Intention to Use, which includes the desire to persuade others to use it; (4) Actual Usage, the behavioral trend of technology usage, and the belief that its usage is not difficult to have proven to enhance user productivity (Thi Khue Thu Ngo & Thu Hang Nguyen, 2021).
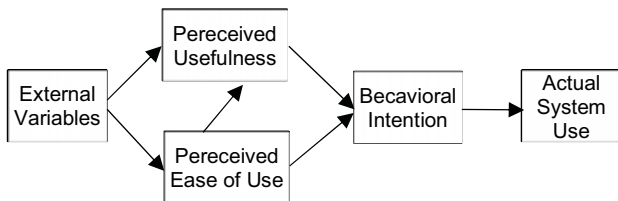

Figure 2: Theory of Technology Acceptance Model (TAM)

2.3. Innovation Diffusion Theory

Rogers defined diffusion as innovations transmitted to members of a social system over time via multiple methods. Innovations can take the form of ideas, practices, and objects that have not been tried, observed, or used before (Rogers, 2003).

According to the Theory of Diffusion of Innovations, the attributes of an innovation determine its success. Not all innovations are equally likely to be accepted by society; some are quickly embraced, while others may take a long time to gain acceptance or may never be accepted. Some community members welcome new terms for ideas, practices, or objects, while others do not. Rogers defined diffusion as innovations transmitted to members of a social system over time via multiple methods. Innovations can

take the form of ideas, practices, and objects that have not been tried, observed, or used before (Rogers, 2003).

According to the Theory of Diffusion of Innovations, the attributes of an innovation determine its success. Not all innovations are equally likely to be accepted by society; some are quickly embraced, while others may take a long time to gain acceptance or may never be accepted. Some community members welcome new terms for ideas, practices, or objects, while others do not.

2.4. Perceived Usefulness

The usefulness of a system is determined by an individual's level of trust in the system's ability to improve work performance (Davis, 1989). Individuals accept new technology when they believe it has excellent potential for utility. The Perceived Usefulness of technology is a primary cause for its acceptance.

Previous studies have discovered a connection between Perceived Ease of Use and Perceived Usefulness, which influences an individual's perspective and actions around technology deployment (Davis, 1989; Liébana-Cabanillas et al., 2015; Thi Khue Thu Ngo & Thu Hang Nguyen 2021). Perceived Usefulness, directly and indirectly, affects the Behavioral Intention. If individuals believe technology can enhance productivity, they are more inclined to use it (Thi Khue Thu Ngo & Thu Hang Nguyen 2021). There are five metrics utilized for Perceived Usefulness, namely (Davis, 1989; Venkatesh et al., 2012):

1. Work Quickly: Users can complete their tasks more swiftly;
2. Useful: Users perceive usefulness when utilizing technology in their work;
3. Effectiveness: Users can effectively perform tasks with the assistance of technology;
4. Easier: Users feel that using technology makes their work easier;
5. Performance: Users sense that using technology makes their work more efficient.

2.5. Perceived Ease of Use

Ease of Use determines how user-friendly a system is and influences how that system is perceived (Davis, 1989). The ease of use influences users' attitudes and intentions to accept information technology (Venkatesh et al., 2012). Before adopting new technology, individuals critically evaluate all the benefits they will gain from its use. The ease of use influences the intent to implement new technologies (Davis, 1989; Liébana-Cabanillas et al., 2015; Thi Khue Thu Ngo & Thu Hang Nguyen, 2021; Venkatesh et al., 2012). The more easily customers may discover utility in a QR code service, the more likely they are to use it.

To measure ease of use, there are four indicators (Davis, 1989; Venkatesh et al., 2012):

1. Easy to Learn: Users can easily learn about the new technology;
2. Easy to Understand: Users believe the new technology is simple to use;
3. Effortless: Users feel that using the technology can be done quickly and without expending much energy;
4. Easy to Use: Users have more confidence in the technology because they perceive it as easy to use.

2.6. Perceived Security

Perceived security assesses to what extent someone believes in safety when using new technology, thereby affecting their perception (Shin et al., 2012). The perceived lack of security is a crucial obstacle to new technology adoption, increasing reluctance to its use. Security is seen as preventing the theft of personal information and transaction details.

Risk and security assessment are primary concerns in QR code payment systems. Security mechanisms for QR code payments must be established to ensure their safety. This fosters trust and enhances attitudes toward the new technology form. Continuous monitoring of the perceived security of QR code payment systems is necessary.

As QR code payment involves linking to online accounts, this factor is crucial in payment method selection. Individuals must perceive security and accurate transaction processes before using the service (Thi Khue Thu Ngo & Thu Hang Nguyen, 2021).

Perceived security is a crucial factor that affects perceptions of service value, individual activities, and overall judgments of service quality. Determining indicators of perceived security include (Flavián & Guinalíu, 2006):

1. Authentication: The process of assessing whether or not the information provided by the user is genuine;
2. Confidentiality: Make sure that only the designated user has access to it;
3. Integrity: Ensuring the accuracy of user transactions;
4. Non-repudiation: Ensuring no one else encourages users to conduct transactions.

2.7. The Attitude of the Word of Mouth

Attitude is a factor that indicates whether a particular behavior is positive or negative. Pleasant or unpleasant attitudes directly influence behavior. Favorable attitudes affect an individual's interest in and active pursuit of information regarding innovation (Zhong & Moon, 2022).

Positive attitudes will influence Word-of-Mouth (WOM) conduct in recommending others. Individuals desire to share their experiences with others after utilizing a specific service, which leads them to plan to try the service themselves. Specifically, when individuals are consistently engaged and committed to a particular service, they are more likely to spread their experiences through WOM (Zhong & Moon, 2022).

WOM Activity, which assesses how often WOM activities occur, how many users discuss them, and how much information is provided; and WOM Praise, which reflects how individuals convey value (positive, negative, or neutral) to others (Harrison-Walker, 2001).

2.8. Behavioral Intention to Use

The best way to achieve this is by using behavioral intention to predict actual behavior when using technology (Liébana-Cabanillas et al., 2015). The user's usage goal is related to their behavioral choice to utilize. It defines behavioral intent as the capacity to carry out a given behavior. This intention reflects an individual's feelings toward the technology, such as the desire to continue using it and encourage others to use it (Panupong & Rawin, 2021).

As users gain expertise with the payment service system, attitudes about new technology change over time (Liébana-Cabanillas et al., 2015). Favorable attitudes are present when individuals actively seek information about an innovation. Users with positive attitudes toward payment services will positively impact the intention to adopt (Panupong & Rawin, 2021).

The behavioral intention to use indications is as follows (Lai & Li, 2005) :

1. Will Use: Users will use the technology on a regular (periodic);
2. Will Often Use: Users will use the technology all the time;
3. Will Give Recommendation: Users will recommend the technology to others.

2.9. Dimentions of Analysis

This study employs a wide range of references to build the research basis:

Table 1: Dimention of Analysis

Author	Title	Results
Francisco Liébana-Cabanillas, Iviane Ramos de Luna and Francisco J. Montoro-Ríos, 2015	User Behaviour in QR Mobile Payment System: The QR Payment Acceptance Model	According to the data, attitude, innovation, and subjective standards all have an impact on future intent to use QR technology in payments.

Author	Title	Results
Yongping Zhong and Hee-Cheol Moon, 2022	Investigating Customer Behavior of Using Contactless Payment in China: A Comparative Study of Facial Recognition Payment and Mobile QR-Code Payment	The fact that both PEOU and PU can affect satisfaction emphasises the significance of perceived ease of use and perceived utility in creating user happiness.
Thi Khue Thu Ngo and Thu Hang Nguyen, 2021	The Intention to Use QR Code Payment in an Emerging Market – The Role of "Attitude" as Mediator	The results of this study indicate that Vietnamese consumers' intention to use QR codes positively is influenced by the "attitude" variable's function as a mediator variable.
Panupong Suebtimrat and Rawin Vonguai, 2020	An Investigation of Behavioral Intention Towards QR Code Payment in Bangkok, Thailand.	People's perceptions about QR payments are influenced by their compatibility. Also statistically important influences on behavioural intention towards QR Payment include adoption preparedness, attitude, and personal inventiveness.
Md Shamim Hossain, Xiaoyan Zhou, and Mst Farjana Rahman, 2018	Examining The Impact of QR Codes On Purchase Intention and Customer Satisfaction on The Basis of Perceived Flow	The QR Code's suitability, acceptability, and viability affect perceived flow, which affects customer satisfaction and buy intent.

2.10. Research Model and Hypothesis

This study investigates the behavioral factors influencing Indonesian consumers' decision to use the QRIS payment method. The conceptual framework in this research is developed based on several previous studies explained in the literature review:
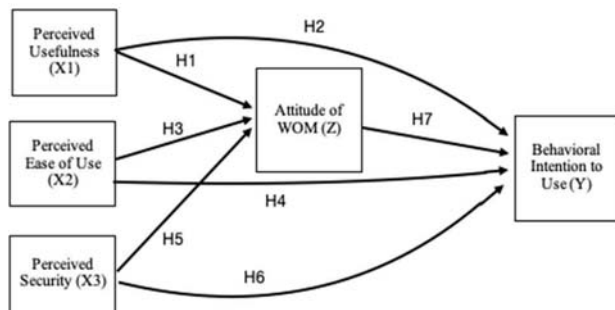

Figure 3: Research Framework

H1: Perceived Usefulness has a significant influence on the Attitude of Word of Mouth.

H0: Perceived Usefulness does not significantly influence the Attitude of Word of Mouth.

H2: Perceived Usefulness has a significant influence on Behavioral Intention to Use.

H0: Perceived Usefulness does not significantly influence Behavioral Intention to Use.

H3: Perceived Ease of Use significantly influences the Attitude of Word of Mouth.

H0: Perceived Ease of Use does not significantly influence the Attitude of Word of Mouth.

H4: Perceived Ease of Use significantly influences Behavioral Intention to Use.

H0: Perceived Ease of Use does not significantly influence Behavioral Intention To Use.

H5: Perceived Security significantly influences the Attitude of Word of Mouth.

H0: Perceived Security does not significantly influence the Attitude of Word of Mouth.

H6: Perceived Security has a significant influence on Behavioral Intention to Use.

H0: Perceived Security does not significantly influence Behavioral Intention to Use.

H7: The Attitude of Word of Mouth significantly influences Behavioral Intention to Use.

H0: The Attitude of Word of Mouth does not significantly influence Behavioral Intention to Use.

3. Research Methods and Materials

3.1. Data Collections and Research Method

The quantitative approach in this study comprises collecting, analyzing, interpreting, and writing data. The phases in this process include choosing the survey technique, selecting the sample and population, gathering and analyzing the data, presenting the findings, interpreting them, and writing the research appropriately for an empirical survey (Creswell & Creswell, 2017).

The quantitative approach in this study comprises collecting, analyzing, interpreting, and writing data. The phases in this process include choosing the survey technique, selecting the sample and population, gathering and analyzing the data, presenting the findings, interpreting them, and writing the research appropriately for an empirical survey (Creswell & Creswell, 2017).

A positivist-based research methodology is quantitative research investigating a specific population or sample. This method involves using research instruments to collect and analyze data, performing measurements or statistical

calculations, and testing hypotheses that have been formulated (Creswell & Creswell, 2017).

According to data from Bank Indonesia, the number of QRIS merchants climbed to 24.9 million in February 2023, totaling 30.87 million QRIS users. Recorded QRIS transaction values until February 2023 amounted to IDR 12.28 billion with a transaction volume of IDR 121.8 million.

In this research, sampling was conducted with a purpose, not randomly. So, the search criteria meet the selected sample. Slovin's (1990) formula is used to help determine sample size. With an allowable margin of error, the percentage used is 5% of the total population of 38 provinces in Indonesia, namely 30,870,000 people. Thus, 400 respondents made up the study's sample.

Active QRIS users were given questionnaires to complete to gather the data for the Indonesian community through WhatsApp and Instagram direct messages (DMs), which contained statements to be filled out via Google Forms.

The research questionnaire is designed to determine the intensity of QRIS usage, the benefits of QRIS usage, the age groups of QRIS users, and the expenditure level of QRIS usage. The results indicate the status of QRIS adoption in the community and the efforts that can be made to enhance consistency.

3.2. Unit Analysis

Research variables are determined to be studied, obtain information about them, and conclude (Creswell & Creswell, 2017). Variables are classified into three types:

1. Independent Variable causes the dependent Variable to change or appear. In this study, the independent variables are Perceived Usefulness, Perceived Ease of Use, and Perceived Security;
2. Dependent Variable: Because each Variable is independent, this has an impact or is the effect. In this study, the dependent variable is Behavioural Intention to Use.
3. Intervening Variable: It has no direct impact on the occurrence or change of the dependent variable since it resides among the independent and dependent variables. The interfering Variable in this study is the Attitude of Word-of-Mouth.

A reference specifies the measured interval length to obtain quantitative data utilizing measuring equipment (Creswell & Creswell, 2017). Each statement sentence is scored on a four-point Likert scale: one represents extreme disagreement, two represents disagreement, three represents agreement, and four represents excellent agreement.

4. Results

4.1. Descriptive Analysis

Results of 400 QRIS users' demographic analysis profile research revealed that 257 respondents (64.3%) had been using QRIS for 1 to 3 years, making them the largest group of QRIS users. Dana was the most commonly used type of QRIS among the respondents. Most respondents had used QRIS in the previous week, based on the timing of their last QRIS usage. In terms of frequency of QRIS use, respondents stated that they always use QRIS. In terms of the objective of QRIS use, the majority of survey participants utilized QRIS daily.

The study identified 228 female responders (57%). Most of the research participants were full-time employees, with 147 (36.8%) holding permanent status. Regarding age groupings, most research participants (51.3%) were between 13 and 28 (Generation Z 2010 - 1995). In terms of income, the majority of the research participants (180 people) fell into the = IDR5,000,000 category. The study identified 228 female responders (57%). Most of the research participants were full-time employees, with 147 (36.8%) holding permanent status. Regarding age groupings, most research participants (51.3%) were between 13 and 28 (Generation Z 2010 - 1995). In terms of income, the majority of the research participants (180 people) fell into the = IDR5,000,000 category.

Table 2: Mean Results

Variable	Mean	Results
Perceived Usefulness (X1)	3,74	Strongly Agree
Perceived Ease of Use (X2)	3,75	Strongly Agree
Perceived Security (X3)	3,63	Strongly Agree
Attitude of WOM (Z)	3,65	Strongly Agree
Behavioral Intention to Use (Y)	3,63	Strongly Agree

The research's findings indicate that most participants strongly concur with the advantages of QRIS from the Perceived Usefulness variable, which scored 3.74, indicating "Strongly Agree." The "Strongly Agree" requirement can also be found in the Perceived Ease of Use metric, with an average score of 3.75, indicating that most participants strongly agree with the claims concerning ease of use. Similarly, the average score of 3.63 for the Perceived Security variable demonstrates the "Strongly Agree" requirement, showing that most participants strongly agree with security perception assertions. With a "Strongly Agree" average score of 3.65 for the Attitude of WOM variable, it is evident that most participants strongly agree with the attitude of WOM statements. With an average score of 3.63 for the Behavioral Intention to Use variable, the "Strongly Agree" criteria show that most participants strongly agree with the behavioral intention statements. The

research's findings indicate that most participants strongly concur with the advantages of QRIS from the Perceived Usefulness variable, which scored 3.74, indicating "Strongly Agree." The "Strongly Agree" requirement can also be found in the Perceived Ease of Use metric, with an average score of 3.75, indicating that most participants strongly agree with the claims concerning ease of use. Similarly, the average score of 3.63 for the Perceived Security variable demonstrates the "Strongly Agree" requirement, showing that most participants strongly agree with security perception assertions. With a "Strongly Agree" average score of 3.65 for the Attitude of WOM variable, it is evident that most participants strongly agree with the attitude of WOM statements. With an average score of 3.63 for the Behavioral Intention to Use variable, the "Strongly Agree" criteria show that most participants strongly agree with the behavioral intention statements.

4.2. Evaluation of Measurement Model

The research findings will be examined using the Structural Equation Modelling (SEM) approach. A statistical model called SEM explains how different variables are related. Smart PLS facilitates data processing on the computer. Data processing is organized into distinct measurement standards such as Convergent Validity, Composite Reliability, and Discriminant Validity to investigate the external model.

4.2.1. Convergent Validity

The convergence validity test investigates whether or not the structural importance of indicator variables. Each indicator's external or factor loading relative to its structure is used to examine the convergence validity. The indication is deemed operationally correct if the external loading value is more significant than 0.5 (Chin, 1998). In other words, indicators with external loading or factor loading values less than 0.5 will be eliminated and retested. The model fits the criterion for convergence validity, which means that all indicators may be used to measure their constructs. The convergence validity test investigates whether or not the structural importance of indicator variables. Each indicator's external or factor loading relative to its structure is used to examine the convergence validity. The indication is deemed operationally correct if the external loading value is more significant than 0.5 (Chin, 1998). In other words, indicators with external loading or factor loading values less than 0.5 will be eliminated and retested. The model fits the criterion for convergence validity, which means that all indicators may be used to measure their constructs.
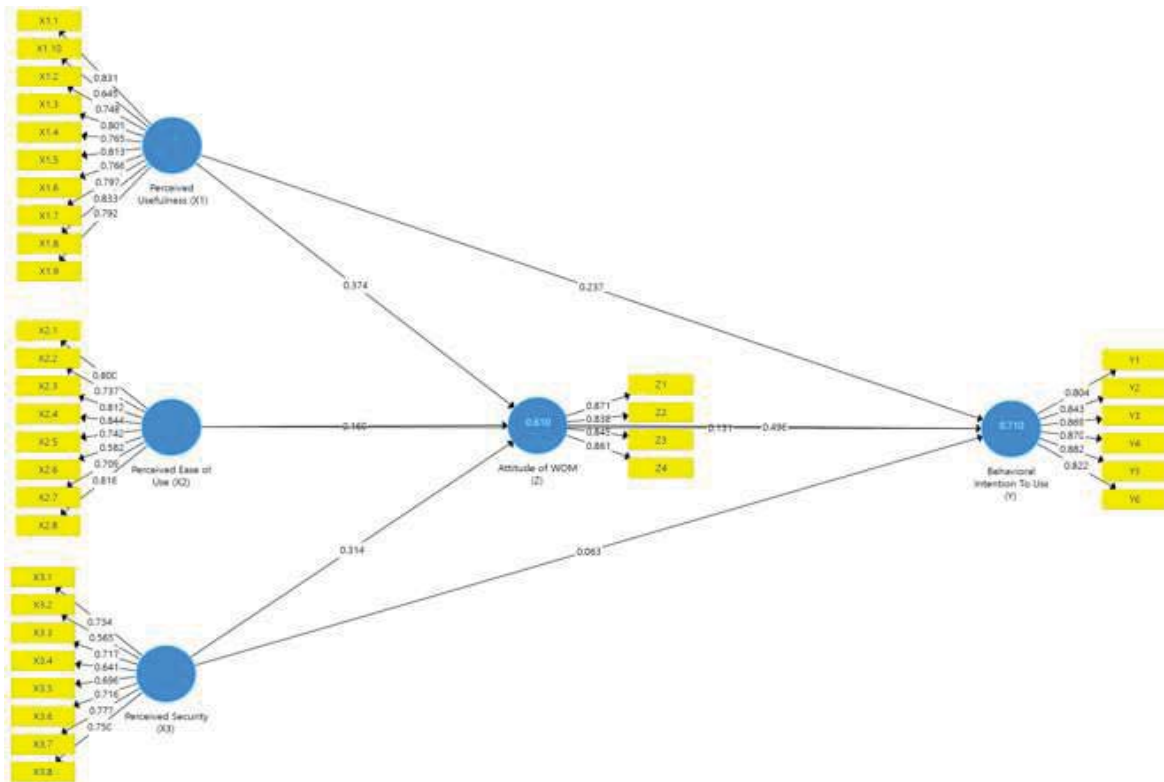

Figure 4: Path Diagram Outer Loading

4.2.2. Composite Reliability

Internal metric consistency with its underlying structure or variable is determined through reliability testing. The questionnaire is considered a research tool if the composite reliability and Cronbach's alpha values exceed 0.70 (Hair Jr., 2014).

Table 3: Composite Reliability

Variable	Cronbach's Alpha	Composite Reliability	Results
Perceived Usefulness (X1)	0,928	0,940	Reliable
Perceived Ease of Use (X2)	0,893	0,915	Reliable
Perceived Security (X3)	0,852	0,885	Reliable
Attitude of WOM (Z)	0,876	0,915	Reliable
Behavioral Intention To Use (Y)	0,922	0,939	Reliable

The results reveal that each structure or variable passes the dependability requirement. Each variable's Composite Reliability Value and Cronbach's Alpha Value are more than 0.7.

4.2.3. Discriminant Validity

Discriminant validity testing is carried out to ensure that each latent variable or concept is understood differently from other variables. Extracted mean-variance (AVE) is employed to evaluate discriminant validity. The constructs satisfy the criteria for discriminant validity. They are considered reliable if their AVE values are greater than 0.5 or between 0.4 and 0.5 and their Composite Reliability values are greater than 0.7 (Verhoef et al., 2009).

Table 4: Discriminant Validity

Variable	Composite Reliability	Average Variance Extracted (AVE)	Results
Perceived Usefulness (X1)	0,940	0,610	Valid
Perceived Ease of Use (X2)	0,915	0,577	Valid
Perceived Security (X3)	0,885	0,493	Valid
Attitude of WOM (Z)	0,915	0,729	Valid
Behavioral Intention to Use (Y)	0,939	0,720	Valid

Considering what the discriminant validity test revealed, the mean extracted variance (AVE) values for Perceived Usefulness (X1), Perceived Ease of Use (X2), the Attitude of Word of Mouth (Z), and Behavioural Intention to Use (Y) are all more than 0.5. In comparison, the variable Perceived Security (X3) has an AVE value of less than 0.5, precisely 0.493, but the total composite reliability value is higher than 0.7, specifically 0.885. Therefore, based on decision references, all variables satisfy the criteria for discriminant validity.

4.3. Evaluation of Structural Model

4.3.1. The Goodness of Fit Model

A model fit test is performed when convergence, discriminant validity, and model dependability outcomes are fulfilled. If the PLS model passes the model accuracy criteria, it will have a positive SMRM (Standardised Mean Squared Residual) value. If the SRMR value is 0.1, the model is said to have met the criteria for a good fit, and if it is 0.08, the model is said to be a perfect fit (Bentler & Bonett, 1980).

Table 5: The Goodness of Fit Model

	Saturated Model	Estimated Model
SRMR	0,051	0,051

The fit test results show that the provided model is suitable for testing the study hypotheses. The saturated model's SRMR value is 0.051, and the model's estimated SRMR value is also 0.051.

4.3.2. Coeficient Determination R Square (R²)

The exogenous and endogenous factors' relative contributions to the endogenous variable are measured using R-squared (R2). The range of the R-squared value is 0 to 1, and all independent variables supply all the information required to identify changes in the endogenous variable. In contrast, the R-squared value (the lower the R2), the less powerful the independent factors are in explaining the endogenous variable. The R-squared values are considered robust if they are more significant than 0.67. Medium if they are greater than 0.33 but less than 0.67; low if they are higher than 0.19 but less than 0.33 (Chin, 1998).

Table 6: R Square

Variable Endogen	R Square (R²)	Criteria
Attitude of WOM (Z)	0,61	Medium
Behavioral Intention To Use (Y)	0,71	Strong

The data show that the exogenous variables, namely Perceived Usefulness (X1), Perceived Ease of Use (X2), and Perceived Security (X3), have a modest or mild impact on the Attitude of Word-of-Mouth (WOM), with a coefficient of 0.61 (61%). In comparison, extraneous factors impact the remaining 39% of the data. In contrast, the exogenous variables Perceived Usefulness (X1), Perceived Ease of Use (X2), Perceived Security (X3), and the Attitude of Word-of-Mouth (Z) have a strong influence on Behavioural Intention to Use (Y). The remaining 29%

were influenced by factors outside the model, with a coefficient of 0.71 (71%), accounting for the difference.

4.3.3. The Significance Level of Path Coefficients

The bootstrapping approach is used for significance-level analysis of the route coefficients in PLS-SEM is carried out. The purpose of this study is to identify exogenous and latent endogenous variables. The t-statistics or p-values are examined in this investigation.

The options in PLS-SEM analysis are as follows for a two-tailed hypothesis with a significance level of 5% or an allowable error of = 0.05: If the exogenous variable significantly affects the endogenous variable, as shown by a |t-statistic| value of more prominent than 1.96 or a significance value (p-value) of less than 0.05, reject H0 or accept H1, respectively (Hair Jr., 2014).

Table 7: The Hypothesis of the Structural Model

Hypo-thesis	Rela-tion Path	Original Sampel	T Stat.	P Values	Impacts
H1	PU (X1) -> AWOM (Z)	0,374	3,432	0,000	Positive, Significance
H2	PU (X1) -> BITU (Y)	0,237	3,162	0,001	Positive, Significance
H3	PEU (X2) -> AWOM (Z)	0,169	1,857	0,032	Positive, Significance
H4	PEU (X2) -> BITU (Y)	0,131	1,818	0,035	Positive, Significance
H5	PS (X3) -> AWOM (Z)	0,314	3,370	0,000	Positive, Significance
H6	PS (X3) -> BITU (Y)	0,063	0,906	0,183	Positive, No Significance
H7	AWOM (Z) -> BITU (Y)	0,496	7,610	0,000	Positive, Significance

The t-statistic for Perceived Usefulness (X1) -> Attitude of Word of Mouth (Z) is 3.432 (> 1.645), with a p-value of 0.000 (0.05), according to the table above. This indicates that Perceived Usefulness significantly impacts how people talk about things. The original sample's positive path coefficient, which stands at 0.374, shows that perceived usefulness positively affects word-of-mouth attitude.

The t-statistic for Perceived Usefulness (X1) -> Behavioural Intention to Use (Y) has a p-value of 0.001 (0.05) and is 3.16 (>1.645). This shows that Perceived Usefulness significantly impacts Behavioural Intention to Use. The original sample's path coefficient is favorable at 0.237, demonstrating a positive effect of Perceived Usefulness on Behavioural Intention to Use.The t-statistic for Perceived Usefulness (X1) -> Behavioural Intention to Use (Y) has a p-value of 0.001 (0.05) and is 3.16 (>1.645). This shows that Perceived Usefulness significantly impacts Behavioural Intention to Use. The original sample's path

coefficient is favorable at 0.237, demonstrating a positive effect of Perceived Usefulness on Behavioural Intention to Use.

The relationship between perceived ease of use (X2) and word-of-mouth attitudes (Z) has a t-statistic of 1.857 (> 1.645) and a p-value of 0.032 (0.05). Perceived Ease of Use has a substantial influence on Word of Mouth Attitude. The positive path coefficient of 0.169 in the original sample indicates that Perceived Ease of Use favors Word-of-Mouth Attitudes.

Perceived Ease of Use (X2) -> Behavioural Intention to Use (Y) has a t-statistic of 1.818 (>1.645) and a p-value of 0.035 (0.05) in a similar manner. This demonstrates that Behavioural Intention to Use is significantly influenced by Perceived Ease of Use. The original sample's path coefficient is positive at 0.131, indicating that Perceived Ease of Use positively affects Behavioural Intention to Use.

The following statistic is the t-statistic for Perceived Security (X3) -> Attitude of Word of Mouth (Z), which is 3.370 (>1.645) and has a p-value of 0.000 (0.05). This suggests that Perceived Security significantly affects Word of Mouth Attitude. The original sample's positive path coefficient of 0.314 indicates that Perceived Security positively affects Word-of-Mouth Attitude.

Last but not least, the relationship between Behavioural Intention to Use (Y) and Attitude of Word-of-Mouth (Z) has a t-statistic of 7.610 (>1.645) and a p-value of 0.000 (0.05). This demonstrates that Word of Mouth Attitude significantly affects Behavioural Intention to Use. The path coefficient (original sample) is positive at 0.496, showing that the influence of Word-of-Mouth Attitudes on Behavioural Intention to Use has been favorable.

The t-statistic for Perceived Security (X3) -> Behavioural Intention to Use (Y), in comparison, is 0.906 (1.645), and the p-value is 0.183 (0.05). This indicates that Behavioural Intention to Use is not significantly influenced by Perceived Security.

5. Discussion

The analysis conducted using the PLS-SEM method and statistical software SMART PLS Version 3 indicates that:

The result shows a significant correlation between Perceived Usefulness and The Attitude of WOM, consistent with research findings about Perceived Usefulness. This is predicated on the assumption that certain technologies can help in achieving outcomes and influence technology adoption behavior as a primary antecedent to attitudes towards the application of innovative technology (Davis, 1989; Liébana-Cabanillas et al., 2015; Thi Khue Thu Ngo & Thu Hang Nguyen, 2021; Venkatesh et al., 2012).

The result shows a significant correlation between Perceived Usefulness and Behavioral Intention to Use. This is consistent with research showing that people's willingness to use new technology is strongly influenced by their perception of its utility (Davis, 1989; Liébana-Cabanillas et al., 2015; Thi Khue Thu Ngo & Thu Hang Nguyen, 2021; Venkatesh et al., 2012).

The result shows a significant correlation between Perceived Ease of Use and The Attitude of WOM. This is consistent with research on the perception of ease of use, which is a crucial variable influencing attitudes towards the usage of information technology. Designing interactions should take into account the assumed knowledge and capabilities of system users (Davis, 1989; Liébana-Cabanillas et al., 2015; Thi Khue Thu Ngo & Thu Hang Nguyen, 2021; Venkatesh et al., 2012).

The result shows a significant correlation between Perceived Ease of Use and Behavioral Intention to Use. This is in line with research showing that simple-to-use technology promotes users to improve their propensity to adopt new services and technologies (Davis, 1989; Liébana-Cabanillas et al., 2015; Thi Khue Thu Ngo & Thu Hang Nguyen, 2021; Venkatesh et al., 2012).

The result significantly correlates with Perceived Security and The Attitude of WOM. This is consistent with research stating that to protect client transactions, electronic payment facilities must implement security measures and improve their sense of security (Davis, 1989; Liébana-Cabanillas et al., 2015; Thi Khue Thu Ngo & Thu Hang Nguyen, 2021; Venkatesh et al., 2012).

The result shows no significant correlation between Perceived Security and Behavioral Intention to Use. Although assessing risk and security is essential for payment systems, usage intention is unaffected by perceived safety. This is consistent with research showing that an individual's behavior, namely their impression of security, has no discernible impact on their intention to use technological services. This could imply that a person's decision to use a QRIS is not influenced by their security impression (Taherdoost, 2017).

The result significantly correlates with The Attitude of WOM and Behavioral Intention to Use. This is consistent with attitudes research that reflects the happy or unpleasant emotions people seek to express through their behavior; in other words, attitude is the primary driving force behind specific behaviors (Davis, 1989; Liébana-Cabanillas et al., 2015; Thi Khue Thu Ngo & Thu Hang Nguyen, 2021; Venkatesh et al., 2012).

6. Conclusion

This study attempted to forecast the effects of perceived usefulness, perceived ease of use, perceived security, and the attitude of WOM on the behavioral intention to use the QRIS payment mechanism. Finding both direct and indirect influences between the variables is a further objective. Using SEM-PLS, the hypotheses were put to the test. Perceived Usefulness, Perceived Ease of Use, and Perceived Security were three independent factors, and The Attitude of WOM was one intervening variable.

This research sending questionnaires to 400 respondents revealed that the majority of QRIS users are female, totaling 228 individuals (57%), and most are from the age group of 13-28 years (Generation Z, 2010-1995). This category includes 205 of the study's respondents (51.3%). It can be concluded that Generation Z is the most user group for QRIS in this research, capable of conducting digital payment transactions efficiently, quickly, and securely. QRIS is an innovation that enables faster payments than other digital payment methods, with waiting times of less than one minute.

This study investigates the cultural influences on people's behavior about their intention to use QRIS in Indonesia. It is essential to consider perceived usefulness and perceived ease of use. Both had a significant and advantageous influence on factors influencing intention to use and attitude toward Word-of-Mouth Behaviour. It demonstrates how Indonesians adopted the attitude of referring to (word-of-mouth) the experience of using QRIS as their habit to use in the future after being persuaded of its use and simplicity.

On the other hand, due to Indonesia's distinct culture, history, and features, a person's Behavioural Intention to Use a QRIS is not significantly affected by Perceived Security. This may suggest that a person's choice to utilize a QRIS is unaffected by their perception of its security.

6.1. Implication and Limitation

Both academic and non-academic disciplines will benefit from the study's outcomes and conclusions. This study sheds light on the potential influence of perceived usefulness, perceived usability, and WOM attitude on behavioral intention to use QRIS as a daily payment in Indonesia.

In the non-academic field, it provides valuable insight into merchants and banks to put more intention on how to convince buyers to choose QRIS payment rather than cash, debit cards, or credit cards. This study also helps to enhance the field of digital communication science. It establishes variables influencing and strengthening the desire to use QRIS in Indonesia.

This work advances our understanding of quantitative elements, such as geographic, cultural, and local influences on the visualization of behavioral intention using QRIS, by offering a more focused scope and more precise matching.

The community is informed and encouraged to consistently embrace QRIS while purchasing by the Perceived Usefulness, Ease of Use, and Security of QRIS usage.

In addition, despite such scholarly and valuable contributions, this research has several shortcomings. Firstly, this research only uses one quantitative research method to conduct this study. Secondly, only the general QRIS users in Indonesia were the study's participants

6.2. Suggestions

Several recommendations for further research may be made. First, a mixed method could gather comprehensive data on all variables. Second, it offers better matching and more constrained environmental conditions. Thirdly, allocating particular people from various places is preferable to obtaining multiple outcomes. Fourth, investigate further factors that might affect behavioral intentions to use QRIS so that we may accomplish the objective of creating a QRIS that can educate the public about its advantages and be used in a simpler, easier, and safer way. Finally, the flow of distribution of goods and services will increase with improvements to Qris features as a FinTech system payment tool. Thus, the growth of transaction and trade flows will widen, and the intensity will increase in multiple distribution networks.

Reference

Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin, 84*(5), 888–918. https://doi.org/10.1037/0033-2909.84.5.888

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin, 88*(3), 588–606. https://doi.org/10.1037/0033-2909.88.3.588

Chin, W. W. (1998). The partial least squares approach for structural equation modeling. In G. A. Marcoulides (Ed.). *Modern methods for business research*, 295–336. Lawrence Erlbaum Associates Publishers

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches.* Sage publications.

Cristobal, E., Flavián, C., & Guinalíu, M. (2007). Perceived e-service quality (PeSQ): Measurement validation and effects on consumer satisfaction and web site loyalty. *Managing Service Quality: An International Journal, 17*(3), 317-340. https://doi.org/10.1108/09604520710744326

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340. https://doi.org/10.2307/249008

Hair, J. F., Jr., Ringle, C. M., & Sarstedt, M. (2014). Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long Range Planning: International Journal of Strategic Management, 46*(1-2), 1–12. https://doi.org/10.1016/j.lrp.2013.01.001

Harrison-Walker, L. J. (2001). The Measurement of Word-of-Mouth Communication and an Investigation of Service Quality and Customer Commitment as Potential Antecedents. *Journal of Service Research, 4*(1), 60–75. https://doi.org/10.1177/109467050141006

Lai, V. S., & Li, H. (2005). Technology Acceptance Model for Internet Banking: An Invariance Analysis. *Information & Management, 42*(2), 373-386. https://doi.org/10.1016/j.im.2004.01.007

Liébana-Cabanillas, F., Ramos de Luna, I., & Montoro-Ríos, F. J. (2015). User Behavior in QR Mobile Payment System: The QR Payment Acceptance Model. *Technology Analysis & Strategic Management, 27*(9), 1031-1049. https://doi.org/10.1080/09537325.2015.1047757

Ngo, T.K.T, & Nguyen, T.H. (2021). The intention to use QR code payment in an emerging market – the role of "Attitude" as mediator. *Psychology and Education Journal, 58*(1). https://doi.org/10.17762/pae.v58i1.1284

Rogers, E. M. (2003). Diffusion of innovations (5th ed.). New York: Free Press.

Shin, D.D., Jung, J., Chang, B. (2012). The psychology behind QR codes: User experience perspective. *Computer Human Behavior, 28*, 1417-1426.

Suebtimrat, P., & Vonguai, R. (2021). An Investigation of Behavioral Intention Towards QR Code Payment in Bangkok, Thailand. *The Journal of Asian Finance, Economics and Business, 8*(1), 939-950.

Taherdoost, H. (2017). Understanding of e-service security dimensions and its effect on quality and intention to use. *Information and Computer Security, 25*(5), 535-559. https://doi.org/10.1108/ICS-09-2016-0074

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly, 36*(1), 157–178. https://doi.org/10.2307/41410412

Verhoef, P. C., Lemon, K. N., Parasuraman, A., Roggeveen, A., Tsiros, M., & Schlesinger, L. A. (2009). Customer experience creation: Determinants, dynamics and management strategies. *Journal of Retailing, 85*(1), 31–41. https://doi.org/10.1016/j.jretai.2008.11.001

Zhong, Y & Moon, H. C. (2022). Investigating Customer Behavior of Using Contactless Payment in China: A Comparative Study of Facial Recognition Payment and Mobile QR-Code Payment. *Sustainability, 14*(12), 7150. https://doi.org/10.3390/su14127150