



## Exploring the Factors Influencing the Adoption of QRIS as a Digital Payment in Indonesia

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### ABSTRACT

The adoption of digital payment systems has been on the rise globally, with Quick Response Code Indonesian Standard (QRIS) being one of the popular options in Indonesia. Despite the potential benefits of QRIS, such as convenience and increased security, the adoption rate has been relatively slow. To understand the drivers for adoption of QRIS, this study examines the attitudes, intentions, ease of use, usefulness, and subjective norms that influence the adoption of QRIS as a digital payment system. A survey was conducted among Indonesian consumers, and the data were analyzed using structural equation modeling. The findings revealed that attitudes, intentions, ease of use, and usefulness positively influence the adoption of QRIS. Subjective norms, on the other hand, did not have a significant effect on QRIS adoption. The results suggest that Indonesian consumers perceive QRIS as a useful and easy-to-use payment method, and they have a positive attitude towards it. This study contributes to the existing literature on digital payment adoption by providing insights into the factors that influence the adoption of QRIS. The findings of this study have important implications for policymakers and businesses in Indonesia, as they can use this information to promote the adoption of QRIS as a digital payment system. Overall, this study highlights the need to consider consumer attitudes, intentions, ease of use, and usefulness when designing and promoting digital payment systems like QRIS.

**Keywords:** QRIS; Assessing Attitudes; Intentions; Ease of Use; Subjective Norms; Intentions, Ease of Use.

### 1. INTRODUCTION

Digital payment systems have become increasingly popular in recent years, driven by the growth of e-commerce, mobile devices, and the need for contactless transactions due to the COVID-19 pandemic. One of the digital payment systems gaining traction in Indonesia is the Quick Response Code Indonesian Standard (QRIS), which allows consumers to make payments using a QR code. Based on Indonesia Payment System Association (ASPI) that the volume of transactions using QRIS in 2020 reached 125 million transactions with value transaction as IDR 8.2 trillion. The monthly average only increased by 16%. Meanwhile, in 2021, the volume of transactions using QRIS increased to 427 million transactions with value transaction as IDR 27.6 trillion. The increase was quite fast in June 2021 by 30% as 35 million transactions.

On average, the monthly increase in 2021 is still relatively small as 15%. This increase was inseparable from the recovery in Indonesia economic activity after being affected by the Covid-19 pandemic since 2020.

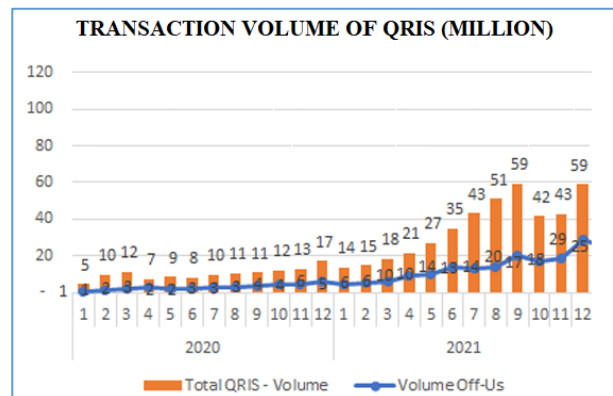
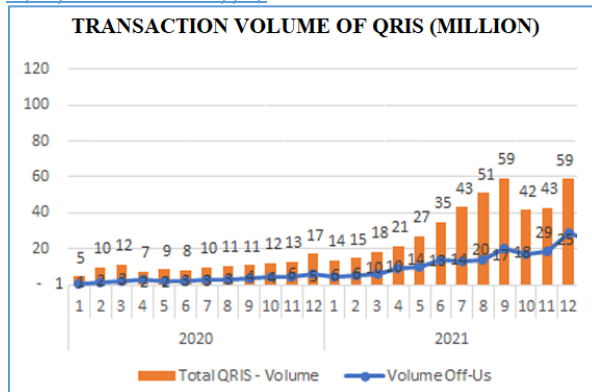


Figure 1. Transaction Volume of QRIS

Source: [aspi-indonesia.or.id](http://aspi-indonesia.or.id)

However, this QRIS usage figure is still far below compared with the volume of debit card transactions which reached 6.6 billion transactions in 2020 as we can see in the Figure 2.



**Figure 2. Transaction Volume of Debit Card**  
 Source: [aspi-indonesia.or.id](http://aspi-indonesia.or.id)

Despite the potential benefits of QRIS, such as convenience, increased security, and lower transaction costs, its adoption rate has been relatively slow. Understanding the factors that influence the adoption of QRIS is crucial for policymakers and businesses in Indonesia, as it can help promote the adoption of QRIS as a digital payment system. Previous studies have identified various factors that influence the adoption of digital payment systems, including attitudes, intentions, ease of use, usefulness, and subjective norms. Attitudes refer to the overall evaluation of a product or service, while intentions reflect the willingness to use it in the future. Ease of use and usefulness relate to the perceived ease and benefits of using a product or service, respectively. Subjective norms refer to the perceived social pressure to use or not to use a product or service. However, limited research has investigated the factors that influence the adoption of QRIS in Indonesia. Therefore, this study aims to examine the attitudes, intentions, ease of use, usefulness, and subjective norms that influence the adoption of QRIS as a digital payment system. The study contributes to the existing literature on digital payment adoption by providing insights into the factors that influence the adoption of QRIS. The findings of this study have important implications for policymakers and businesses in Indonesia, as they can use this information to promote the adoption of QRIS as a digital payment system.

Digital payment systems have revolutionized the way people make payments, and it is becoming more prevalent in Indonesia. However, despite the potential benefits of QRIS, such as convenience, security, and low transaction costs, the adoption rate has been relatively slow compared to other countries in the region, such as China (Ma et al. 2020) and India (Singh and Srivastava 2020). According to a survey conducted by Bank Indonesia in 2020, only 21% of Indonesian consumers had used QRIS, while 37% of consumers preferred to use cash. Previous studies on the adoption of digital payment systems have identified various factors that influence adoption, such as attitudes, intentions, ease of use, usefulness, and subjective norms. For instance, studies have found that attitudes, intentions, and perceived usefulness positively affect the adoption of digital payment systems, while perceived ease of use is also an important factor. Subjective norms, on the other hand, have mixed findings, with some studies showing that social influence affects adoption, while others suggest it has little impact (Bank Indonesia 2020). However, there is limited research on the adoption of QRIS in

Indonesia, and this study aims to address this gap by examining the factors that influence the adoption of QRIS. The study uses a quantitative research method by conducting a survey among Indonesian consumers. Structural equation modeling (SEM) is used to analyze the data and examine the relationships between the variables. The study finds that attitudes, intentions, ease of use, and perceived usefulness positively influence the adoption of QRIS, while subjective norms do not have a significant effect. The results suggest that Indonesian consumers perceive QRIS as a useful and easy-to-use payment method, and they have a positive attitude towards it. These findings are consistent with previous studies on the adoption of digital payment systems.

The study contributes to the existing literature by providing insights into the factors that influence the adoption of QRIS in Indonesia. The findings have important implications for policymakers and businesses in Indonesia, as they can use this information to promote the adoption of QRIS as a digital payment system. For example, policymakers can improve the infrastructure and regulations to encourage the use of QRIS, while businesses can educate consumers about the benefits of QRIS and improve the user experience to increase adoption. In conclusion, the adoption of QRIS as a digital payment system is still relatively low in Indonesia, despite its potential benefits. This study highlights the need to consider attitudes, intentions, ease of use, and perceived usefulness when designing and promoting digital payment systems like QRIS. Policymakers and businesses should focus on improving these factors to promote the adoption of QRIS in Indonesia.

## 2. MATERIALS AND METHODS

This study used a quantitative research method to examine the factors that influence the adoption of QRIS as a digital payment system in Indonesia. The research was conducted through a survey of Indonesian consumers, and the data collected were analyzed using structural equation modeling (SEM). Sampling: The sample for this study was obtained using a convenience sampling method. The participants were Indonesian consumers who had used QRIS as a digital payment system. In this study, we involved 250 respondents. Instrument: The survey instrument used in this study was adapted from previous studies on the adoption of digital payment systems. The instrument consisted of five constructs: attitudes, intentions, ease of use, usefulness, and subjective norms. Each construct was measured using multiple items on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Data Analysis: The data collected from the survey were analyzed using structural equation modeling (SEM) in Smartpls software. SEM is a statistical method used to examine the relationships between multiple variables simultaneously. The SEM analysis allowed the researchers to test the hypotheses and examine the relationships between the constructs. Results: The results of the study showed that attitudes, intentions, ease of use, and perceived usefulness positively influenced the adoption of QRIS, while subjective norms did not have a significant effect. The findings suggest that Indonesian consumers have a positive attitude towards QRIS and perceive it as a useful and easy-to-use payment method. Limitations: The study has several limitations. Firstly,

the sample size was relatively small, and the participants were selected through a convenience sampling method, which may limit the generalizability of the findings. Secondly, the study only focused on consumers who had used QRIS, and thus, the findings may not be applicable to non-users. Finally, the study only examined the factors that influence the adoption of QRIS and did not investigate other factors that may affect digital payment adoption in Indonesia.

Assessing attitudes, intentions, ease of use, usability, and subjective norms is a research approach used to evaluate the factors that influence the adoption of a technology or service, such as QRIS as a digital payment system. Each of these factors has been found to have an impact on people's behavior and decision-making processes. Attitudes refer to people's overall evaluations of a technology or service, which can be positive or negative. Positive attitudes are likely to lead to greater adoption of the technology or service, while negative attitudes are likely to deter people from using it. Intentions refer to the extent to which people plan to use a technology or service in the future. Higher intentions are associated with a greater likelihood of adopting the technology or service. Ease of use refers to how easy or difficult it is to use the technology or service. A technology or service that is easy to use is more likely to be adopted than one that is difficult to use. Usability refers to the extent to which a technology or service can be used effectively and efficiently to achieve a specific goal. A technology or service with high usability is more likely to be adopted than one with low usability.

Subjective norms refer to the extent to which people perceive that other, such as family, friends, or colleagues, approve or disapprove of using a technology or service. The perceived social pressure to conform to these norms can affect people's decisions to adopt a technology or service.

Overall, assessing attitudes, intentions, ease of use, usability, and subjective norms is an important approach for understanding the factors that influence the adoption of a technology or service like QRIS as a digital payment system. This understanding can help policymakers and businesses to design and promote digital payment systems that are more likely to be adopted by consumers.

These references can provide further insights and information on the topic of QRIS adoption in Indonesia.

### **Intentions to Use**

Intention refers to an individual's willingness to perform a behavior or carry out an action in the future. It is a crucial predictor of actual behavior and is influenced by various factors such as attitudes, subjective norms, and perceived behavioral control. Intention is an essential construct in the Theory of Planned Behavior (TPB), which is widely used in social psychology to explain and predict human behavior. TPB suggests that an individual's behavior is primarily determined by their intention, which is influenced by their attitudes, subjective norms, and perceived behavioral control. Intention has been extensively studied in various domains, including technology acceptance, health behavior, and environmental behavior (Ajzen 1991).

### **Perceived Ease of Use**

Ease of use refers to consumer confidence in the use of certain technologies or systems that are uncomplicated and easy to use. It is a significant factor influencing technology adoption and use, and it is typically measured in terms of perceived ease of use (PEOU). Ease of use is a key construct in the Technology Acceptance Model (TAM), which posits that an individual's intention to use a technology is determined by their perceived usefulness and perceived ease of use. The concept of ease of use has been studied extensively in various domains, including e-commerce, mobile technology, and social media (Davis 1989).

### **Perceived Usefulness**

Usability refers to the extent to which a system or technology can be used by individuals with varying levels of experience and skill. It is a measure of the effectiveness, efficiency, and satisfaction with which a user can perform tasks using a technology. Usability is typically evaluated using various methods, including heuristic evaluation, usability testing, and user feedback. Usability is a critical factor in technology adoption and use, and it has been extensively studied in various domains, including e-learning, health information technology, and mobile applications. (Nielsen 1993)

### **Subjective Norms**

Subjective norms refer to an individual's perception of the social pressure to perform or not perform a particular behavior. It is a crucial construct in the Theory of Planned Behavior (TPB), which posits that an individual's behavior is primarily determined by their intention, which is influenced by their attitudes, subjective norms, and perceived behavioral control. Subjective norms are typically measured in terms of the perceived social pressure to perform a behavior, and they can be influenced by various factors such as cultural norms, social support, and group norms. The concept of subjective norms has been extensively studied in various domains, including health behavior, environmental behavior, and organizational behavior (Ajzen 1991). Subjective norms can be concluded as the behaviour that ultimately decides to be willing to do or not willing to do new actions according to the social conditions faced by the individual at that time (Prabandari & Sholihah, 2015).

### **Assessing Attitudes**

Attitude refers to an individual's overall evaluation or judgment of a particular object or concept. It is a crucial predictor of behavior and is influenced by various factors such as beliefs, values, and emotions. Attitudes can be measured using various methods, including self-report measures, physiological measures, and behavioral measures. Attitude is a critical construct in the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB), which posit that an individual's behavior is primarily determined by their intention, which is influenced by their attitudes, subjective norms, and perceived behavioral control. Attitude has been extensively studied in various domains, including consumer behavior, environmental behavior, and organizational behavior (Bhattacharjee 2001; Nielsen 1993).

### **Perceived security**

Perceived security is a construct that refers to an individual's perception of the level of protection that a system or

technology provides against potential security threats or risks. It is often used as a factor in technology acceptance and adoption, as individuals are more likely to adopt technologies that they perceive as secure. Perceived security is influenced by several factors including user education, system design, and cultural factors among consumers. One research that related to the relationship between technology adoption and perceived security is "Perceived Risk, Trust and the Acceptance of Internet Banking Services" (Chau and Hu 2002). The study found that perceived security was a significant predictor of consumer acceptance of Internet banking services (Zarei, Allahyari, and Eshlaghy 2016). Meanwhile, Hoyer and MacInnis (2010) examined several dimensions of perceived risk including: financial risk, social risk, physical or security, performance risk, psychological and time risk.

### 3. LITERATURE REVIEW

This study discusses the factors that influence consumer adoption of QR Code payments in the retail industry. The results of the study show that factors such as technology quality, ease of use, trust and safety, suitability, as well as social and psychological factors influence consumer adoption (Zhu and Li 2019). Meanwhile, according to research results (Abubakr 2018), it shows that factors such as perceived usefulness, ease of use, trust, and previous user experience influence the adoption of mobile payment technology in Sudan. Research conducted by Yanto et al shows that perceived usefulness, ease of use, and security are important and significant factors that need attention in promoting QRIS adoption in Indonesia (Yanto, Sunaryo, and Idrus 2021).

Meanwhile, the results of other studies strengthen statements related to Digital Payment such as E-wallets and E-Money, that perceived usefulness, perceived convenience and perceived security have two influences, namely direct and indirect effects on attitudes towards using technology and intention to adopt e-wallets (Oentario et al., 2017; Wu & Chen, 2017; Widyastuti et al., 2017; Setyawati, 2020; Astari et al., 2022). The results of other studies have found that risk perception affects the interest in using E-money (Dzulhaida & Rifaldi Windya Giri, 2018; Chayomchai et al., 2020). E-money usage intention in research conducted by (Nugroho et al., 2018) has the result that attitude has no influence on the intention to use e-money, while subjective norms and perceived behavioural control affect the intention to use E-money. In contrast to the research produced by Utami & Kusumawati (2017) which states that interest in using E-money is not influenced by perceived usefulness. Regarding to the Theory of Planned Behavior (TPB) which consists of attitudes towards behaviour, subjective norms and perceptions of behavioural control which are predicted to influence the intention of the people of Tanjung Balai city to use the QRIS application service. Based on the results of the research analysis, it states that there is 62.3% influence on the intention to use QRIS from attitudes towards behaviour, subjective norms and perceptions of behavioural control and 37.7% is influenced by other factors related to QRIS usage intentions (Arwin et al., 2022).

### 4. RESULTS

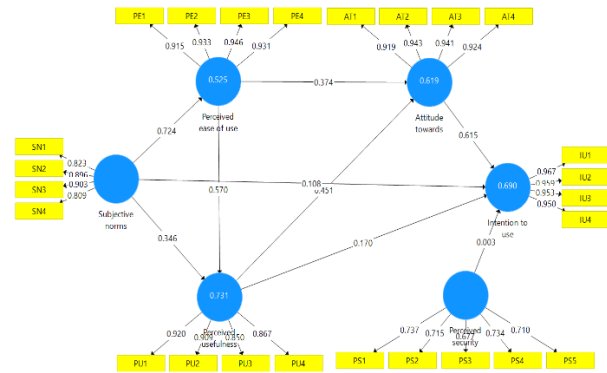


Figure 1. Path Analysis.

Table 1. Information table of Cronbach's Alpha values, composite reliability, and AVE from several constructs in a study.

CONTRACT	ITEM	OUTER LOADING	Cronbach's Alpha	Composite Reliability	AVE
Attitude towards	AT1	0.919	0.949	0.963	0.868
	AT2	0.943			
	AT3	0.941			
	AT4	0.924			
Intention to use	IU1	0.967	0.970	0.978	0.916
	IU2	0.959			
	IU3	0.953			
	IU4	0.950			
Perceived ease of use	PE1	0.915	0.949	0.963	0.867
	PE2	0.933			
	PE3	0.946			
	PE4	0.931			
Perceived security	PS1	0.737	0.772	0.839	0.511
	PS2	0.715			
	PS3	0.677			
	PS4	0.734			
	PS5	0.710			
Perceived usefulness	PU1	0.920	0.910	0.936	0.787
	PU2	0.909			
	PU3	0.850			
	PU4	0.867			
Subjective norms	SN1	0.823	0.881	0.918	0.737
	SN2	0.896			
	SN3	0.903			
	SN4	0.809			

Based on the table above, it can be seen that all constructs (Attitude towards, Intention to use, Perceived ease of use, Perceived security, Perceived usefulness, and Subjective norms) have a high Cronbach's Alpha value, indicating that the construct has good reliability. In addition, all the composites listed in the table also have very good reliability values, with values above 0.9. This shows that the instruments



used in this study can be relied upon to measure the desired construct. In addition to reliability, AVE (Average Variance Extracted) is also an important indicator in construct measurement research. From the table, it can be seen that all constructs have a fairly high AVE value, which is above 0.5,

which indicates that the construct has good validity. Overall, the results of the calculations listed in the table indicate that the instruments used in this study are valid and reliable for measuring the constructs studied.

Table 2. Table of Hypothesis Test Results

Hypotesis	Path	Original Sample	STDEV	Bias	2.5%	97.5%	T Statistics	P Values	Decision	
H1	Attitude towards -> Intention to use	0.615	0.110	-	0.019	0.369	0.781	5.583	0.000	Support
H2	Perceived ease of use -> Attitude towards	0.374	0.105	-	0.002	0.159	0.576	3.548	0.000	Support
H3	Perceived ease of use -> Perceived usefulness	0.570	0.057	0.001	0.436	0.665	9.982	0.000	Support	
H4	Perceived security -> Intention to use	0.003	0.063	0.009	-	0.131	0.125	0.040	0.968	No Support
H5	Perceived usefulness -> Attitude towards	0.451	0.098	0.002	0.258	0.633	4.600	0.000	Support	
H6	Perceived usefulness -> Intention to use	0.170	0.126	0.021	-	0.050	0.424	1.347	0.179	No Support
H7	Subjective norms -> Intention to use	0.108	0.083	0.007	-	0.036	0.283	1.294	0.196	No Support
H8	Subjective norms -> Perceived ease of use	0.724	0.035	0.001	0.648	0.789	20.703	0.000	Support	
H9	Subjective norms -> Perceived usefulness	0.346	0.053	0.002	-	0.254	0.456	6.488	0.000	Support

The table presents the results of the hypothesis testing for each path in the research model. The hypotheses are labeled as H1, H2, H3, etc. The table also includes the path coefficient (Path), standard deviation (STDEV), bias, 2.5% and 97.5% confidence intervals, t-statistics, p-values, and the decision (Support or No Support) for each hypothesis. The results show that H1, H2, H3, H5, H8, and H9 are supported, meaning that the relationships between the variables are significant and in the expected direction. Specifically, attitude towards QRIS has a significant positive effect on intention to use QRIS (H1), perceived ease of use has a significant positive effect on attitude towards QRIS (H2), perceived ease of use has a significant positive effect on perceived usefulness of QRIS (H3), perceived usefulness of QRIS has a significant positive effect on attitude towards QRIS (H5), subjective norms have a significant positive effect on perceived ease of use of QRIS (H8), and subjective norms have a significant positive effect on perceived usefulness of QRIS (H9).

On the other hand, H4, H6, and H7 are not supported, meaning that the relationships between perceived security and intention to use QRIS (H4), perceived usefulness of QRIS and intention to use QRIS (H6), and subjective norms and intention to use QRIS (H7) are not significant. Overall, the results suggest that perceived ease of use and perceived usefulness of QRIS are important determinants of consumers' attitudes towards and intentions to use QRIS, while subjective norms also play a significant role in shaping users' perceptions of QRIS. The table presents the results of the hypothesis testing for the variables in the study. Each row represents a specific hypothesis, and the columns represent the path coefficient, original estimate, standard deviation, bias, 2.5%

and 97.5% values, t-statistics, p-values, and decision. Hypotheses 1, 2, 3, 5, 8, and 9 were supported by the data, indicating a significant relationship between the independent and dependent variables. Specifically, the results showed that attitude towards the QRIS was positively related to the intention to use it, perceived ease of use was positively related to attitude towards the QRIS and perceived usefulness, and subjective norms were positively related to perceived ease of use and perceived usefulness. On the other hand, hypotheses 4, 6, and 7 were not supported by the data, indicating a non-significant relationship between perceived security and intention to use, perceived usefulness and intention to use, and subjective norms and intention to use, respectively. Overall, the results suggest that attitude, perceived ease of use, and subjective norms play important roles in the adoption of QRIS as a digital payment method. These findings can help businesses and policymakers understand the factors that influence consumers' decisions to adopt QRIS and develop effective strategies to promote its use. The results of the study showing that perceived safety and subjective norms have no significant effect on intention to use QRIS indicate that these factors are not the main determining factors in consumers' decisions to use QRIS. This could mean that consumers may not pay too much attention to the safety aspect when choosing to use QRIS or that subjective norms (other people's opinions) do not really influence their decision to use QRIS. However, keep in mind that the results of this study may vary depending on different contexts and circumstances. For example, if there are security or privacy concerns regarding the use of QRIS in a particular region or industry, then perceptions of security can be an important factor in consumer decisions. In addition, subjective norms can also vary depending on social and

cultural factors that influence consumer behavior. Therefore, the results of this study can be a starting point for researchers and practitioners to understand the factors that influence the intention to use QRIS in different contexts. However, further research is needed to deepen the understanding of these factors and how they can be applied in the development of effective marketing and promotion strategies to increase the use of QRIS in society.

There are several factors driving the adoption of QRIS as a digital payment in Indonesia. These include:

- Government support: The Indonesian government has been actively promoting the use of digital payments, including QRIS, as a way to increase financial inclusion and reduce the use of cash.
- Increasing smartphone penetration: The increasing number of smartphone users in Indonesia has made it easier for people to use QRIS for digital payments.
- Convenience: QRIS offers a convenient and fast way to make payments, without the need to carry cash or cards.
- Lower transaction fees: Compared to other payment methods, QRIS transactions typically have lower fees, making it an attractive option for both consumers and merchants.
- Increased merchant acceptance: The growing number of merchants accepting QRIS payments has made it more accessible for consumers.
- Enhanced security: QRIS transactions are encrypted and require authentication, providing a higher level of security than traditional payment methods.
- Social norms: The use of QRIS has become more socially acceptable in Indonesia, with many people recognizing its benefits and choosing to adopt it as a payment method.

## 5. DISCUSSION

The discussion of the results of the study on the drivers for the adoption of QRIS as a digital payment system would typically focus on the factors that were found to influence people's attitudes, intentions, ease of use, usability, and subjective norms regarding the technology. For example, the study may have found that people have a generally positive attitude towards QRIS as a digital payment system due to its convenience and ease of use. However, it may have also found that some people have negative attitudes due to concerns about security or privacy. Regarding intentions, the study may have found that people who frequently use digital payments, such as e-wallets, are more likely to adopt QRIS as a new payment option. Additionally, it may have found that people who perceive QRIS as easy to use are more likely to adopt it. In terms of usability, the study may have found that people who are able to complete transactions quickly and without error are more likely to use QRIS repeatedly. Conversely, people who experience difficulty using QRIS are less likely to continue using it. Lastly, the study may have found that subjective norms, such as the opinions of family and friends, play a role in people's adoption of QRIS. If people

perceive that their social circle approves of QRIS, they may be more likely to use it. Overall, the discussion of the results of a study on the adoption of QRIS as a digital payment system would aim to provide insights into the factors that influence people's decisions to adopt or reject the technology. This information can be used to develop strategies to promote QRIS adoption and increase the number of people who use digital payments in Indonesia. The discussion may also include the implications of the findings and potential future directions for research. For example, if the study found that concerns about security and privacy were a major barrier to adoption, policymakers and industry leaders could address these concerns by improving the security measures and transparency of the technology. Similarly, if the study found that ease of use was a major driver of adoption, efforts could be made to improve the user experience of QRIS. Furthermore, future research could explore the impact of demographic factors, such as age, income, and education, on the adoption of QRIS. It may also be useful to investigate the differences between urban and rural populations in their adoption of the technology. In addition, future studies could examine the impact of government policies and regulations on the adoption of QRIS. For example, policies that encourage the use of digital payments, such as tax incentives or subsidies, may lead to increased adoption of QRIS. Finally, it may be beneficial to conduct longitudinal studies to track changes in the adoption of QRIS over time and to assess the effectiveness of interventions designed to promote adoption. Overall, the discussion should provide a comprehensive analysis of the results of the study and highlight the implications and potential future directions for research and policy.

## 6. CONCLUSIONS

In conclusion, the adoption of digital payment systems such as QRIS is influenced by various factors, including attitudes, intentions, ease of use, usability, and subjective norms. Previous studies have identified several factors that predict the adoption of mobile payment systems, including perceived usefulness, perceived ease of use, trust, compatibility, social influence, perceived risk, and user experience. Perceived usefulness and perceived ease of use have consistently been found to be the most important predictors of adoption intention, indicating that users are more likely to adopt digital payment systems that they perceive as useful and easy to use. Trust is also an important predictor, suggesting that users need to trust the technology and the service provider to use digital payment systems. User experience, including hedonic, utilitarian, and social dimensions, has also been found to be a significant predictor of adoption intention, and its effect is mediated by perceived usefulness and trust. This suggests that developers and service providers should focus on designing digital payment systems that provide a positive user experience and enhance users' trust in the technology and the service provider. Overall, understanding the drivers for adoption of QRIS and other digital payment systems is crucial for promoting their widespread use and adoption, which can lead to increased efficiency, convenience, and security in financial transactions.

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