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QRIS and the Future of Digital Payments: Factors Influencing Consumer Behavioral Intentions in Indonesia

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ABSTRACT

The purpose of this study is to determine the variables that affect Indonesian consumers' behavioral intentions when they choose to use the Quick Response Indonesian Standard (QRIS) mobile payment system. Data was gathered using a quantitative study approach by means of online surveys sent to QRIS users. This study investigates how behavioral goals, alternatives, and individual characteristics affect the adoption of QRIS. The findings of the investigation indicate that consumers' behavioral intention to adopt QRIS is significantly influenced by individual characteristics, including personal knowledge and innovativeness. The decision to adopt is also influenced by how appealing other payment options, including cash and credit cards, are. It has been demonstrated that consumer behavioral intention has a significant role in the choice to utilize QRIS. This study adds to the body of knowledge on the adoption of digital payment technologies and offers tactical suggestions to boost QRIS adoption in Indonesia, such as boosting consumer education, fostering trust, and highlighting QRIS's benefits over competing products.

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1. INTRODUCTION

The way customers conduct transactions has evolved as a result of the banking sector's use of digital technologies, especially with regard to mobile payment (MP) services. The Quick Response Indonesian Standard (QRIS), which uses two-dimensional barcodes as a payment method, is one of the newest mobile payment technologies. QRIS enables fast and efficient transactions without the need for cash, providing great benefits in terms of payment convenience and security. However, although QRIS offers various advantages, its adoption rate in Indonesia is still limited and further research needs to be done to understand the factors that influence consumers' behavioral intentions in using this service.

Based on available data, Indonesia has seen a significant increase in the use of mobile payment services in recent years. According to Setiaji (2019), the usage rate of mobile payments in Indonesia increased from 38% in 2018 to 47% in 2019. However, despite the growth, Indonesia is still in fifth place after countries such as China, Thailand, and Vietnam in terms of mobile payment usage. This data shows that there is great potential for QRIS to grow, but also indicates that there are challenges that need to be overcome, both

in terms of infrastructure and consumer understanding, for QRIS to gain wider acceptance. Therefore, it is important to continue to explore the factors that influence QRIS adoption, especially with regards to consumer behavioral intentions and the impact of the social environment and pandemic.

The use of QR-Code-based mobile payments, such as Quick Response Indonesian Standard (QRIS), has become a major alternative to traditional payments in Indonesia. While this technology offers various conveniences, such as fast and secure purchases, and the elimination of the use of cash, the adoption of QRIS by consumers in Indonesia is still limited. The poor acceptance rate can be attributed, in part, to consumers' incomplete comprehension of the rationale behind their use of this technology. Research findings are inconsistent, and it is still unclear which factors impact behavioral intention when adopting QRIS. Consequently, this research will determine the elements that impact customers' behavioral intents while using QRIS payments and how these elements could impact the technology's acceptance rate in Indonesia.

This research is limited to analyzing the factors that influence consumer behavior intention in using QRIS in Indonesia. The main focus of the research is on users who are already familiar with using mobile payment technology, specifically using QRIS as a payment method. This research does not include analysis related to other types of mobile payments or the adoption of digital payment systems outside of QRIS. Individual-related variables and other alternative pressures that are influenced by behavioral goals in QRIS adoption are among the components examined in this study. Additionally, the data used in this study is restricted to respondents who live in Indonesia.

This study significantly advances our knowledge of how digital payment technology, particularly QRIS, is being used in Indonesia. The findings of this study can help commercial groups and policymakers create policies that will effectively promote consumer adoption of QRIS. Practically, the results of this study can provide useful recommendations to improve the QRIS user experience, expand user coverage, and improve service quality. Theoretically, this study enriches the literature on technology acceptance and innovation adoption, and identifies new factors that can influence consumer behavioral intentions.

Behavioral intention is a very important aspect in the study of technology acceptance, because this intention can predict the actual use of technology by consumers. Customers' decisions to utilize mobile payment technologies are influenced by a number of variables, including perceived usefulness, simplicity of use, and social and personal aspects. For instance, research indicates that behavioral intentions about the adoption of mobile payment technologies might be influenced by perceived utility and simplicity of use. (Li-Ya Yan et al., 2020; Ho et al., 2020). However, although there are many studies regarding the adoption of mobile payment technology, the results are still inconclusive, especially in the context of QRIS which is a new technology in Indonesia.

QRIS itself is a QR-Code-based payment system designed to simplify transactions and speed up the payment process. Although this technology has been introduced since 1994, its application in Indonesia is still in the developmental stage. Several studies identify barriers to QRIS adoption, such as different views on its benefits and difficulties in understanding its use.

Thus, this research is important to further explore how consumer behavior intention can moderate individual-related factors and other alternative forces on QRIS adoption. It is anticipated that this study would help to the creation of a digital payment technology adoption model in Indonesia and offer a greater understanding of the elements influencing QRIS acceptance.

This study's primary goal is to examine the variables that affect consumers' behavioral intentions when they choose to use QRIS-based payment services. This study specifically attempts to determine how

consumer behavioral intention in utilizing QRIS is influenced by individual-related characteristics and other alternative influences, as well as how behavioral intention functions as a mediator in QRIS adoption in Indonesia.

2. LITERATURE REVIEW

2.1 Willingness to Use Inovation

Willingness to use innovation is personal innovativeness, or an individual's desire to try new technology, which has a significant impact on the adoption of new technology (Agarwal & Prasad, 1998), a key characteristic of individual differences in influencing innovation adoption, and is related to the user's desire to accept new information technology [2]. In Pham & Ho's (2015) research, willingness to use is defined as the innovativeness of new technology.

Willingness to use innovation is defined as an individual's willingness to try new information [1]. Innovative users are more willing to integrate new technologies into their daily routines by facing the uncertainty of innovative technologies [2]. They are active information explorers who seek new ideas and accept danger and uncertainty [2].

In innovation diffusion research, highly innovative individuals tend to actively seek new ideas and have a willingness to try new technologies, known as willingness to use innovation or personal innovativeness. Agarwal & Prasad (1998) define personal innovativeness as an individual's willingness to try new technologies, which has a significant effect on technology adoption. Previous research shows that innovative individuals are more ready to integrate new technologies in their daily lives, despite facing uncertainties related to these technologies [3]. Personal innovativeness is therefore an important factor in influencing the adoption of new technological innovations, including mobile payments such as QRIS.

Agarwal & Prasad (1998) also added that Personal Innovation in Information Technology (PIIT) is a construct that influences the adoption of information technology. They found that individuals with higher levels of PIIT have more positive perceptions of the ease of use and usefulness of new technology, which increases their intention to adopt the technology. A number of studies, such as those conducted by [4] and Yang et al., (2012), confirm that personal innovativeness also has an effect on the adoption of mobile payment services and m-banking. Therefore, willingness to use innovation has a great impact in facilitating QRIS adoption, as more innovative individuals tend to be more open to new technologies.

2.2 ***Trust (Tr)***

Trust is the subjective belief that a party will fulfill its obligations according to the expectations of the trusting party. It is important because gaining trust reduces fear and anxiety Gefen et al (2003), McKnight et al (2002). Transactions conducted in mobile networks are more vulnerable and uncertain compared to traditional payments and therefore pose a greater potential risk.

Deficiencies in security controls reduce consumer trust in M-Payment systems (Chou et al., 2004, Dewan & Chen, 2005). When online vendors have implemented appropriate security mechanisms, consumers perceive online purchases as safe [10]. Perceived privacy control is also an important factor in consumer acceptance of online services, as consumers are reluctant to share any personal or financial information with online vendors because they feel that the vendors may use this information for undesirable purposes. To protect customer privacy, organizations must protect all personal information, which they collect either directly or indirectly from other organizations (Wu and Tsang 2008).

Trust in technology adoption, especially in QRIS-based mobile payment services, is a crucial factor that influences consumers' decision to make transactions. Trust is built through three phases: initiating, maintaining, and eliminating, with different determinants at each phase [11]. In the early stages of QRIS adoption, the adopter's initial

trust is critical, as it reflects the consumer's readiness to take the risk of using the new technology. Research shows that consumers are more likely to adopt new technologies if they have trust in the service provider, including perceptions regarding the competence, integrity and ethics of the service provider (Chung & Kwon, 2009; Li & Yeh, 2010).

Trust serves as a subjective guarantee for consumers, ensuring that they will receive the expected benefits from the transaction. Several studies have shown that trust influences consumers' decisions to engage in E-Commerce and M-Commerce transactions (Siau et al., 2004; Gefen et al., 2003; Jarvenpaa et al., 2000). Research also reveals that a lack of trust, especially related to security issues, can reduce consumers' willingness to use mobile payment services, such as QRIS (Duane et al., 2014; Cleff, 2007)..

Overall, trust is an important element in the adoption of new technologies, including QRIS. Without sufficient trust in the service provider and system security, consumers tend to hesitate to make transactions (Kim et al., 2007; Pavlou & Fygenson, 2006). Therefore, increasing customer trust in QRIS technology is critical to expanding the adoption and use of this mobile payment service in Indonesia.

2.3 Personal Knowledge

Rogers (1995) proposes that sufficient knowledge of different channels is necessary for individuals to be aware of innovations and their benefits. Consumers who have knowledge about m-payment services will more easily understand the use of the m-payment system. It will be beneficial than consumers who have no knowledge of m-payment services (Lwoga & Lwoga, 2017). Web users utilize their knowledge for information processing, distinguishing between relevant and irrelevant information [13]. According to Kim et al (2010) m-wallets are relatively easy to use by individuals with higher mobile payment knowledge, compared to individuals who do not have knowledge of m-wallet services.

According to Kim et al (2010) for early adopters, the level of m-payment knowledge is very important for users who find it easy to use m-payments. This can be explained by the fact that knowledge of m-payments gives early adopters the confidence to try the complex features of MP. Early adopters consider mobility and affordability necessary for the ease of use of m-payments [14]. Kim et al. (2010) found that the characteristics of the system had no impact on the perceived benefits of mobile payments. M-wallets are relatively easy to use for individuals who are more familiar with mobile payments than for those who are not (Kim et al., 2010). Kim et al. (2010) claim that m-payment knowledge has a beneficial effect on how easy m-payment services are judged to be to use. The real uptake of Alipay in Malaysia is significantly positively correlated with understanding of mobile payments [15]. Li et al. (2014) discovered that the behavioral intention of adopting mobile payments in China is positively and significantly impacted by mobile payment knowledge.

They contend that customers are more likely to want to utilize mobile payment systems if they are informed and knowledgeable about them.

2.4 Factors related to Alternative Attractiveness

The degree to which consumers believe that alternatives compete is known as alternative appeal [16]. According to earlier research, behavioral intentions to utilize technology or services are negatively impacted by the attractiveness of alternatives (Jones et al., 2000; Amoroso & Magnier-Watanabe, 2012).

According to earlier research, behavioral intentions to utilize a technology or service are negatively impacted by the attractiveness of alternatives (Jones et al., 2000; Amoroso & Magnier-Watanabe, 2012). Since NFC mobile payment systems are still in their infancy, their adoption may be significantly hampered by well-established alternatives with significant network externalities, such as cash, credit cards, or debit cards (Amoroso & Magnier-Watanabe, 2012; Pham & Ho, 2014). The desire to embrace NFC mobile payments may thus be influenced by consumers' comparative

identification of alternatives to NFC mobile payments (Pham & Ho, 2014). Users are more likely to select and remain with appealing alternatives if they provide proportional benefits over NFC mobile payments. Conversely, if an existing substitute does not have the necessary appeal to attract and maintain customer loyalty, it is possible that NFC mobile payments will fill the gap.

While behavioural intention to use technology influences use behaviour, or an individual's actual use of technology, the alternative power construct in the UTAUT2 model can impact behavioural intention to use technology. According to the idea, a person's desire to use technology is influenced by a number of factors, including whether the technology is viewed as helpful, simple to use, and significant by others, as well as if the resources required to utilise it are available and the user has a habit of utilising it. Differences in experience, gender and age of individuals have an effect on this construct on behavioral intentions and using technology [15].

3. METHODS

3.1 Research Design

This study adopts a quantitative research design to test the proposed hypothesis. Data was collected using a questionnaire distributed online through Google Form to respondents who are users of mobile payment services using QRIS. This study evaluates the variables that affect the adoption of QRIS, identifying aspects pertaining to people and options through the use of the causality concept. Although it has the disadvantage of having less control on respondent validity, an online survey was used in this case since it is effective at gathering data. This research aims to gain a deeper understanding of the factors that influence consumers' behavioral intentions in using QRIS, an area that has been limited in previous research (Burhan, 2009; Nayak & Narayan, 2019).

3.2 Operational Definition and Measurement of Variables

The variables used in this study are defined operationally to facilitate measurement using the Structural Equation Modeling (SEM) model. The exogenous variables studied are Willing to Use (WTU), Trust (T), Personal Knowladge (PK). In this study, QRIS adoption is the dependent variable and behavioural intention (IB) is the moderating variable. A five-point Likert scale is used for measurement, and participants are asked to rate how much they agree or disagree with each statement they submit.

3.3 Population and Sample

QRIS service customers in Indonesia, which includes the islands of Sumatra, Java, Bali, and Kalimantan, make up the study's population. The Area Sampling approach was used to determine the sample, accounting for respondent availability and geographic considerations. The sampling technique used is purposive sampling, where the sample is selected based on certain criteria relevant to the research objectives. Sample criteria include individuals who have or have not used QRIS payment services and are between 17 and 60 years old. Using the Isaac and Michael formula, the minimum sample size required is 349 respondents, and the target of this study is 600 respondents spread across various islands.

3.4 Data Collection Methods

Data was collected through an online survey using questionnaires distributed through social media and messaging applications such as WhatsApp. The questionnaire included demographic questions and respondents' experience with QRIS services, as well as an assessment of the various factors that influence the adoption of this technology. Respondents were able to give a thorough evaluation of the statements presented thanks to the usage of a five-point Likert scale.

3.5 Data Analysis Method

The data obtained were analyzed using Structural Equation Modeling (SEM) to test the hypotheses that have been proposed. Several tests were conducted to ensure the validity and reliability of the instrument,

including validity test using standardized loading factor and reliability test using Construct Reliability (CR). Classical assumption tests were also applied to test the normality, multicollinearity, heteroscedasticity, autocorrelation, and linearity of the data. In addition, structural model testing is carried out by measuring goodness of fit to ensure the fit of the model to the data.

4. RESULTS AND DISCUSSION

Measurement Model (Outer Model)

The evaluation of the measurement model is tested with several indicators including: Convergent Validity, Discriminant Validity, and Reliability. The measurement model is calculated using PLS *Algorithm*.

Convergent Validity

An indicator is said to be valid if the loading factor of an indicator is positive and greater than 0.7 and the AVE value is more than 0.5. The loading factor value shows the weight of each indicator / item as a measure of each variable. Indicators with large loading factors indicate that the indicator is the strongest (dominant) variable measure. The following can be seen the loading factor value in Table 4.1 below:

Tabel 1. Convergent Validity Test

Variabel	Item	Loading Factor	AVE	Description
Individual Factors	PK1	0.866	0.703	Valid
	PK2	0.883		Valid
	PK3	0.828		Valid
	PK4	0.825		Valid
	PK5	0.853		Valid
	T1	0.868		Valid
	T2	0.780		Valid
	T3	0.782		Valid
	T4	0.835		Valid
	WTU1	0.851		Valid
	WTU2	0.846		Valid
Other Alternatives	AA1	0.907	0.824	Valid
	AA2	0.908		Valid
Behavioral Intention	BI1	0.870	0.759	Valid
	BI2	0.871		Valid
	BI3	0.872		Valid
	BI4	0.891		Valid
	BI5	0.881		Valid
	BI6	0.843		Valid
QRIS adoption	QA1	0.947	0.896	Valid
	QA2	0.946		Valid

Source: SmartPLS Output (v.3.2.9)

Discriminant Validity

A model's validity is tested using discriminant validity. Discriminant validity is demonstrated using the cross-loading value and the Fornell-Lacker criterion, which show the degree of relationship between the construct and its indicators as well as indications of other constructs. The fornell-lacker criteria and the standard value used for cross loading must be greater than 0.7, as determined by comparing the square root value 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 to have excellent discriminant validity if its AVE root

value is higher than the correlation value between it and other constructs in the model.

Tabel 2. Fornell-Larcker Criterion Value

Variabel	QRIS Adoption	Other Alternatives	Individual Factors	Behavioral Intention
QRIS Adoption	**0.947**			
Other Alternatives	0.826	**0.908**		
Individual Factors	0.839	0.855	**0.933**	
Behavioral Intention	0.301	0.283	0.274	**0.871**

Source: SmartPLS Output Results

Tabel 3. Cross loading value

Item	QRIS Adoption	Other Alternatives	Individual Factors	Behavioral Intention
PK1	0.795	0.704	**0.866**	0.223
PK2	0.946	0.786	**0.883**	0.280
PK3	0.831	0.689	**0.828**	0.200
PK4	0.809	0.705	**0.825**	0.222
PK5	0.869	0.758	**0.853**	0.229
T1	0.884	0.739	**0.868**	0.256
T2	0.690	0.661	**0.780**	0.239
T3	0.614	0.670	**0.782**	0.197
T4	0.677	0.725	**0.835**	0.251
WTU1	0.697	0.741	**0.851**	0.252
WTU2	0.671	0.693	**0.846**	0.160
AA1	0.747	**0.907**	0.767	0.263
AA2	0.752	**0.908**	0.785	0.251
BI1	0.246	0.262	0.224	**0.870**
BI2	0.278	0.263	0.251	**0.871**
BI3	0.318	0.286	0.311	**0.872**
BI4	0.276	0.246	0.253	**0.891**
BI5	0.208	0.177	0.163	**0.881**
BI6	0.213	0.218	0.187	**0.843**
QA1	**0.947**	0.777	0.884	0.289
QA2	**0.946**	0.786	0.883	0.280

Source: SmartPLS Output Results (v.3.2.9)

Based on tables 2 and 3, the cross-loading value on each item has a value> 0.70, and also on each item has the greatest value when associated with its latent variable compared to when associated with other latent variables. This shows that each variable in this study has accurately explained its latent variable and proves that the discriminant validity of all items is valid.

Reliability

Reliability in PLS uses Cronbach alpha and Composite reliability values. It is declared reliable if the Composite reliability value is above 0.7 and the Cronbach's alpha value is recommended above 0.7. The following is the value of Cronbach alpha and Composite reliability in table 4.3 below:

Tabel 4. Reliability Test

Variabel	Cronbach's Alpha	Composite Reliability

QRIS Adoption	0.884	0.945
Other Alternatives	0.786	0.903
Individual Factors	0.958	0.963
Behavioral Intention	0.937	0.950

Source: SmartPLS Output Results (v.3.2.9)

Based on table 4 above, it can be seen that the composite reliability value of all research variables is> 0.7 and Cronbach Alpha> 0.7. These results indicate that each variable has met the composite reliability and Cronbach alpha so that it can be concluded that all variables have a high level of reliability. So that further analysis can be carried out by checking the goodness of fit of the model by evaluating the inner model.

Structural Model (*Inner Model)*

After testing the outer model, the next step is to test the inner model. Inner model or structural model testing is carried out to see the relationship between constructs, the significance value and R-square of the research model.

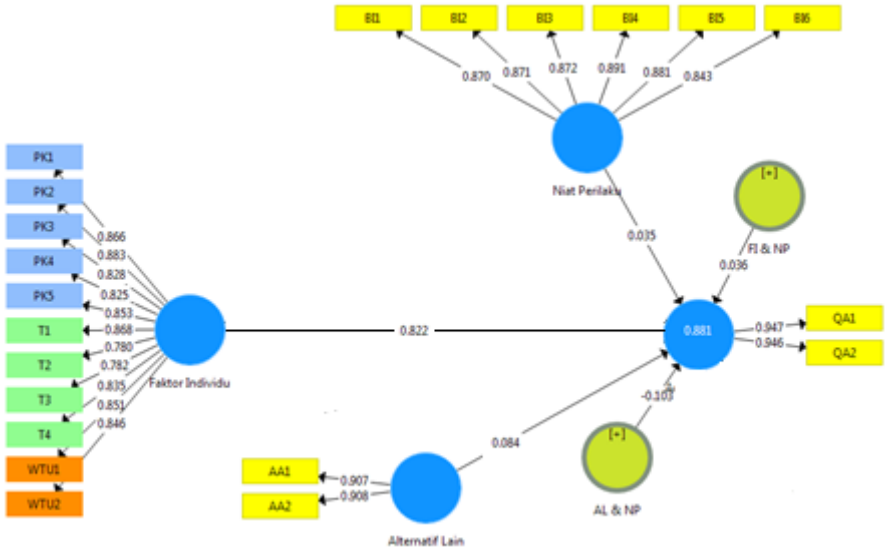

Figure 1. Structural Model Picture

Source: SmartPLS Output Results (v.3.2.9)

Evaluation of the PLS structural model begins with looking at the R-square of each dependent latent variable. Table 4.14 is the result of the R-square estimate usingPLS.

R Square

Tabel 5. R Square Testing Results

Variabel	R-*Square*	R-*Square Adjusted*
QRIS adoption	0.881	0.879

Source: SmartPLS Output Results (v.3.2.9)

Based on table 5 above shows the R-Square value of the QRIS Adoption variable of 0.881, this value means that the QRIS Adoption variable can be explained by the independent variables by 88.1% and the remaining 11.9% can be explained by other variables not contained in this study.

Hypothesis Testing Results

Testing the structural relationship model is to explain the relationship between the variables in the study. Structural model testing is done through tests using PLS software. The basis used in testing the hypothesis directly is the image output and the value contained in the pathcoefficients output. The basis used to test the hypothesis directly is if the p value <0.05 (significance level = 5%) and the T statistic value> 1.960, then it is stated that there is a significant effect of exogenous variables on endogenous variables. The following is a complete explanation of hypothesis testing:

Tabel 6. Hypothesis Testing

Variabel	Original Sample (O)	T Statistics (| O/STDEV |)	P Values
Other Alternatives -> QRIS Adoption	0.822	25.505	0.000
Behavioral Intention -> QRIS Adoption	0.084	2.420	0.016
Behavioral Intention -> QRIS Adoption	0.035	2.485	0.013
FI & NP -> QRIS Adoption	0.036	1.042	0.298
AL & NP -> QRIS adoption	-0.103	3.432	0.001

Source: SmartPLS Output Results (v.3.2.9)

In PLS, statistical testing of each hypothesized relationship is carried out using simulation. In this case, it is done with the bootsrapping method on the sample. The following are the results of the PL bootstrapping analysis as follows:

1. Influence of Individual Factors on QRIS Adoption.

The results of testing the second hypothesis, namely the Effect of Individual Factors on QRIS Adoption, show a coefficient value of 0.822, a p-value of 0.000 <0.05 and a t-statistic of 25.505> 1.960. These results indicate that Individual Factors Affect QRIS Adoption. So that the hypothesis which states that "**Individual Factors Have a Positive and Significant Effect on QRIS Adoption**" is accepted.

2. Effect of Other Alternatives on QRIS Adoption.

The results of testing the first hypothesis, namely the Effect of Other Alternatives on QRIS Adoption, show a coefficient value of 0.084, a p-value of 0.016 <0.05 and a t-statistic of 2.420> 1.960. These results indicate that Other Alternatives Affect QRIS Adoption. So that the hypothesis which states that "**Other Alternatives Have a Positive and Significant Effect on QRIS Adoption**" is accepted.

3. The Effect of Behavioral Intentions on QRIS Adoption.

The results of testing the fifth hypothesis, namely the Effect of Behavioral Intention on QRIS Adoption, show a coefficient value of 0.035, a p-value of 0.013 <0.05 and a t-statistic of 2.485> 1.960. These results indicate that Behavioral Intentions Affect QRIS Adoption. So that the hypothesis which states that "**Behavioral Intention Has a Positive and Significant Effect on QRIS Adoption**" is accepted.

4. The Effect of Behavioral Intent Moderates the Effect of Individual Factors on QRIS Adoption.

The results of testing the seventh hypothesis, namely the Effect of Behavioral Intention Moderating the Influence of Individual Factors on QRIS Adoption, show a coefficient value of 0.036, a p-value of 0.298> 0.05 and a t-statistic of 1.042 < 1.960. **These results indicate that Behavioral Intention Moderates the Influence of Individual Factors on QRIS Adoption**.

5. The Effect of Behavioral Intent Moderates the Effect of Other Alternatives on QRIS Adoption.

The results of testing the sixth hypothesis, namely the Effect of Behavioral Intention Moderating the Influence of Other Alternatives on QRIS Adoption, show a coefficient value of -0.103, a p-value of 0.001 <0.05 and a t-statistic of 3.432 <1.960. **These results indicate that Behavioral Intention Moderates the Effect of Other Alternatives on QRIS Adoption**. So that the hypothesis is accepted.

5. CONCLUSION

This study identifies factors that influence consumer behavioral intentions in adopting the Quick Response Indonesian Standard (QRIS) mobile payment system in Indonesia. The results show that individual factors, other alternatives, and consumer behavior intention have a significant influence on QRIS adoption. Individual factors, such as personal knowledge and innovativeness, proved to play a major role in driving consumers' intention to use QRIS. In addition, although QRIS offers various conveniences, the existence of more established payment alternatives such as cash

and credit cards, also influences the adoption decision.

It was also demonstrated that consumers' behavioral intentions had a significant role in determining whether or not they chose to use QRIS, with higher intentions raising the chance of adoption. However, whereas behavioral intentions were able to moderate the impact of other alternatives in QRIS adoption decisions, they were unable to moderate the influence of individual variables on QRIS adoption.

Practically speaking, the study's findings can help policymakers and QRIS service providers create more efficient plans to boost QRIS adoption in Indonesia by educating customers more and fostering their confidence in the payment system.

Strategic Implications

The study's findings suggest a number of strategic actions that policymakers and QRIS service providers might use to hasten Indonesia's adoption of QRIS:

1) **Consumer Education on QRIS**
   The results show that individual factors, especially knowledge of technology, play an important role in QRIS adoption decisions. Therefore, a more intensive education strategy on the benefits of QRIS and how to use it is needed. Service providers and the government should develop clear and easy-to-understand information campaigns to increase public understanding of QRIS. This can be done through various communication channels, including mass media, digital apps, and even in-person training programs in communities.
2) **Increased Consumer Trust**
   Trust is an important factor influencing QRIS adoption. Service providers should continuously improve security and data protection mechanisms to mitigate consumer concerns regarding privacy and transaction security. Measures such as security certification and transparency in personal data management can help build trust. In addition, service providers need to ensure that QRIS payment systems are easy to access and use with high protection guarantees.
3) **Strengthening the Advantages of QRIS Compared to Other Payment Alternatives**
   This study found that payment alternatives such as cash and credit cards are still a barrier to QRIS adoption. Therefore, strategies to increase the attractiveness of QRIS compared to existing alternatives should focus on ease of use, lower costs, and other functional advantages. For example, offering incentives such as discounts or promotions for QRIS users can drive further adoption.
4) **Improving QRIS User Experience**
   To increase user satisfaction and accelerate QRIS adoption, service providers should focus on improving user experience, especially in terms of ease of use and transaction speed. Development of user-friendly applications, responsive customer support and improved service quality can strengthen user loyalty and expand the market reach of QRIS.
5) **Strengthening the Role of Behavioral Intentions in QRIS Acceptance**
   Consumer behavioral intentions are shown to have a great influence on QRIS adoption. Therefore, marketing strategies should be designed to increase behavioral intentions by emphasizing the long-term benefits of using QRIS. Emphasis on ease of transaction, convenience, and security can strengthen consumers' intention to switch to digital payments.

By implementing these strategic implications, it is expected to increase the adoption rate of QRIS in Indonesia, which in turn will accelerate digital transformation in the payment system in the country.

REFERENCES

[1] R. Agarwal and J. Prasad, "A Conceptual and Operational Definition of Personal Innovativeness in the Domain of Information Technology," *Inf. Syst. Res.*, vol. 9, no. 2, pp. 204–215, 1998, doi: 10.1287/isre.9.2.204.

[2] E. Rogers, *Diffusion of innovations. 5th ed*. New Yor: Free Press, 2003.

[3] E. Rogers, *Difusi inovasi (4th ed.)*. New York: Free Press, 1995.

[4] S. Gupta, H. Xu, and X. Zhang, "Balancing privacy concerns in the adoption of Location-Based Services: an empirical analysis," *Int. J. Electron. Bus.*, vol. 9, no. 1/2, p. 118, 2011, doi: 10.1504/ijeb.2011.040358.

[5] S. Yang, Y. Lu, S. Gupta, Y. Cao, and R. Zhang, "Mobile payment services adoption across time: An empirical study of the effects of behavioral beliefs, social influences, and personal traits," *Comput. Human Behav.*, vol. 28, no. 1, pp. 129–142, 2012, doi: 10.1016/j.chb.2011.08.019.

[6] D. Gefen, E. Karahanna, and D. W. Straub, "TRUST AND TAM IN ONLINE SHOPPING: AN INTEGRATED MODEL1 By:," *MIS Q.*, vol. 27, no. 1, pp. 51–90, 2003.

[7] D. H. McKnight, V. Choudhury, and C. Kacmar, "Developing And Validating Trust Measure for E-Commerce: An Integrative Typology. Informatin System Research.," *Inf. Syst. Res.*, vol. 13, no. 3, pp. 334–359, 2002.

[8] Y. Chou, C. Lee, and J. Chung, "Understanding m-commerce payment systems through the analytic hierarchy process," *J. Bus. Res.*, vol. 57, no. 12 SPEC.ISS., pp. 1423–1430, 2004, doi: 10.1016/S0148-2963(02)00432-0.

[9] S. G. Dewan and L. Chen, "Mobile Payment Adoption in the US: A Cross-industry, Crossplatform Solution," *J. Inf. Priv. Secur.*, vol. 1, no. 2, pp. 4–28, 2005, doi: 10.1080/15536548.2005.10855765.

[10] J. C. Roca, J. J. García, and J. J. de la Vega, "The importance of perceived trust, security and privacy in online trading systems," *Inf. Manag. Comput. Secur.*, vol. 17, no. 2, pp. 96–113, 2008, doi: 10.1108/09685220910963983.

[11] C. L. Corritore, B. Kracher, and S. Wiedenbeck, "On-line trust: Concepts, evolving themes, a model," *Int. J. Hum. Comput. Stud.*, vol. 58, no. 6, pp. 737–758, 2003, doi: 10.1016/S1071-5819(03)00041-7.

[12] E. T. Lwoga and N. B. Lwoga, "User acceptance of mobile payment: The effects of user-centric security, system characteristics and gender," *Electron. J. Inf. Syst. Dev. Ctries.*, vol. 81, no. 1, pp. 1–24, 2017, doi: 10.1002/j.1681-4835.2017.tb00595.x.

[13] S. Y. Rieh, "On the Web at home: Information seeking and Web searching in the home environment," *J. Am. Soc. Inf. Sci. Technol.*, vol. 55, no. 8, pp. 743–753, 2004, doi: 10.1002/asi.20018.

[14] C. Kim, M. Mirusmonov, and I. Lee, "An empirical examination of factors influencing the intention to use mobile payment," *Comput. Human Behav.*, vol. 26, no. 3, pp. 310–322, 2010, doi: 10.1016/j.chb.2009.10.013.

[15] V. Venkatesh, J. Y. T. L., and X. Xu, "Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Information Technology," *MS Q.*, vol. 36, no. 3, pp. 157–178, 2012, doi: 10.1109/MWSYM.2015.7167037.