

Consumer Behavior toward Digital Transactions Using QRIS: A Technology Acceptance Model (TAM) Approach

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ABSTRACT

This study aims to analyze consumer behavior toward digital transactions using the Quick Response Code Indonesian Standard (QRIS) through the Technology Acceptance Model (TAM) framework. A quantitative descriptive approach was applied to examine the relationships among perceived usefulness (PU), perceived ease of use (PEOU), attitude toward use (ATU), and behavioral intention (BI) in determining consumer acceptance of QRIS. Data were collected from active users of digital payment systems in Indonesia and analyzed using the Partial Least Squares Structural Equation Modeling (PLS-SEM) method. The findings reveal that perceived usefulness and perceived ease of use significantly influence users' positive attitudes toward QRIS, which subsequently enhance their behavioral intention to use. Trust and perceived security also play crucial roles in reinforcing the relationship between attitude and intention. Theoretically, this research confirms the robustness of the TAM framework within the context of financial technology adoption in developing economies. Practically, the study provides strategic implications for monetary authorities and digital payment providers to increase QRIS adoption through user experience enhancement, digital literacy programs, and stronger regulatory measures for transaction security.

Keywords: consumer behavior, QRIS, technology adoption, Technology Acceptance Model

INTRODUCTION

The development of the digital economy in Indonesia in the last decade has experienced rapid growth, marked by the increasing adoption of financial technology (financial technology or fintech) in various sectors of people's lives. One of the most influential innovations in the national payment system is the implementation of the Quick Response Code Indonesian Standard (QRIS), which was officially launched by Bank Indonesia (BI) in 2019. QRIS is here as a national standard for QR code-based payments to integrate various digital payment systems to make them more efficient, secure, and interoperable. Since its introduction, QRIS has become a symbol of accelerating transformation towards an inclusive and highly competitive cashless society. Based on the Bank Indonesia report (2024), the number of merchants that have been registered in the QRIS system has reached more than 42 million units, with an annual transaction volume of IDR 266 trillion, an increase of almost double compared to the previous year. The data shows that the digitalization of the payment system has become an important component in strengthening the foundation of Indonesia's digital economy.

The presence of QRIS not only represents technological innovation, but also brings changes in consumer behavior in transactions. This phenomenon marks a shift in people's preferences from the use of cash towards faster, more efficient, and safer digital transactions. However, the level of consumer acceptance of QRIS is not uniform; some



groups of people with high digital literacy tend to quickly adopt this technology, while other groups still show resistance to changes in transaction behavior (Hidayat & Prasetyo, 2022). These differences show that behavioral factors and psychological perceptions play an important role in the financial technology adoption process. In this context, the Technology Acceptance Model (TAM) theory developed by Davis (1989) became the most relevant conceptual framework to explain the factors that influence user acceptance of new technologies.

The TAM model emphasizes that individual acceptance of technology is influenced by two main constructs, namely perceived usefulness (PU) and perceived ease of use (PEOU). Perceived usefulness describes the extent to which a person believes that the use of a particular technology can improve the performance or effectiveness of his or her activities, while perceived ease of use indicates the extent to which a person believes that the technology is easy to use and does not require a great deal of effort to operate (Davis, 1989). These two variables form a positive attitude towards technology, which then affects the user's actual intentions and behaviors (behavioral intention to use). Various contemporary studies confirm the relevance of the TAM model in explaining consumer behavior towards modern financial technology, including QR code-based payment systems (Venkatesh & Bala, 2008; Shin et al., 2022; Lee & Kim, 2023).

In the Indonesian context, the implementation of QRIS is part of the government's strategic agenda to realize the Indonesian Payment System Blueprint (BSPI) 2025, which targets the creation of an efficient, secure, and inclusive digital financial ecosystem (Bank Indonesia, 2020). QRIS is expected to be able to unify various digital payment services from different providers into one interoperable national system, such as GoPay, OVO, DANA, ShopeePay, and LinkAja. With one universal QR code, consumers can make cross-platform transactions without a hitch. This implementation not only provides convenience for consumers, but also efficiency for business actors, especially the MSME sector. According to the Ministry of Cooperatives and SMEs (2023), the use of QRIS has increased transaction speed and expanded digital market access for small business actors by 38% in 2023.

However, behind this positive growth, there is still a significant adoption gap between regions and community groups. Consumers in urban areas, especially millennials and Gen Z, are faster to accept QRIS than people in rural areas who have limited access to digital infrastructure (Huda et al., 2023). This shows that acceptance of QRIS is not only determined by technological factors, but also by the perception of benefits, convenience, and user trust. In many cases, trust and perceived security are important factors in forming the intention to use a digital payment system (Rahmawati et al., 2022). People who have a high level of trust in transaction security tend to be more ready to adopt QRIS in a sustainable manner.

In addition to individual internal factors, consumer behavior towards QRIS is also influenced by changes in the economic and social environment, especially since the COVID-19 pandemic. The global health crisis is accelerating digital transformation in various sectors, including the payment system. The need for contactless payments has made people more accustomed to using QR code-based payment technology. Based on a McKinsey & Company survey (2022), as many as 64% of Indonesian consumers started using digital payments during the pandemic, and 82% of them continued to use it after the pandemic ended. This shift shows a permanent change in behavior, where the use of QRIS is no longer considered just an alternative, but part of a new digital lifestyle.

The increase in QRIS adoption has also contributed to the growth of national financial inclusion. According to the World Bank (2023), the level of formal financial account ownership in Indonesia increased from 49% in 2017 to 76% in 2022, with the

largest contribution coming from digital payment systems and fintech platforms. This proves that consumer behavior towards digital payment technology has a significant macroeconomic impact, including in expanding financial access for low-income people and micro-business actors. From the perspective of the digital economy, the higher the level of technology acceptance by consumers, the faster the process of economic transformation towards an efficient and transparent transaction system.

In the digital economy literature, the application of the Technology Acceptance Model (TAM) has become the most widely used approach to explain technology adoption behavior among consumers. According to Davis (1989), perceived usefulness (PU) and perceived ease of use (PEOU) not only affect users' attitudes towards technology, but also form behavioral intentions (behavioral intention to use), which ultimately affect actual behavior. This model confirms that a person will accept a new technology when he or she believes that it provides real benefits and is easy to operate. In the context of QRIS, the benefits felt can be in the form of transaction speed, cost efficiency, and payment process security, while ease of use includes ease of access through digital wallet applications and a simple QR scanning process.

Various recent studies support the validity of the TAM model in explaining the adoption behavior of digital payment systems. Lee and Kim (2023) found that the perception of ease of use has an indirect influence on the intention of use through increased perception of benefits. Meanwhile, Shin et al. (2022) show that in the context of QR code payment in East Asia, perceived usefulness is the dominant factor in forming a positive attitude towards technology. The results of a similar study in Indonesia by Putra and Rahmawati (2023) confirm that trust strengthens the relationship between perceived usefulness and behavioral intentions towards the use of QRIS. This means that even though consumers consider QRIS useful, they still need confidence in the security and reliability of the system to really want to use it regularly. This is in line with the findings of Rahmawati et al. (2022) who emphasized that consumer trust is an important determinant in the adoption of digital-based payment systems, especially in emerging markets.

In addition to PU and PEOU, the TAM model also has more comprehensive theoretical derivatives, such as TAM2 and TAM3, which introduce external variables such as subjective norms, perceived risk, and facilitating conditions (Venkatesh & Bala, 2008). In the context of QRIS, social norms play an important role because many consumers start using QRIS not solely because of functional needs, but also because of social influences and trends in their environment. As explained by Venkatesh et al. (2020), technology adoption behaviors are often shaped by social expectations and community encouragement. This is reflected in Indonesia, where the promotion of QRIS through #AyoQRIS campaigns and non-cash transaction incentives has succeeded in increasing the number of new users by 31% during 2023 (Bank Indonesia, 2023). This phenomenon shows that social and emotional approaches are important factors in accelerating the diffusion of digital financial innovation.

In terms of behavioral economics, psychological factors such as perceived risk perception and perceived security also play a role as a barrier or driver for the adoption of digital technology. According to Dwivedi et al. (2022), consumers tend to reject new technologies if they assess the security risks high, despite the great benefits. This is particularly relevant to the Indonesian context, where concerns about online fraud and data leaks are still high. Research by Bohang et al. (2021) shows that 41% of respondents are reluctant to use QRIS because they are worried that their personal data will be misused. Therefore, the effectiveness of QRIS adoption is highly dependent on the level of consumer confidence in the security policies implemented by Bank Indonesia and

digital financial service providers. In this case, the trust factor is a key element that needs to be managed properly through public education and strict regulatory supervision.

In addition to psychological aspects, demographic differences also affect QRIS adoption behavior. Widjaja and Setyawan (2023) found that the young age group (18–35 years) has a higher tendency to use QRIS than the elderly group, because they are more familiar with digital technology and have a greater level of trust in the electronic financial system. Education levels and income also have an effect, with highly educated and upper-middle-income individuals adopting QRIS more quickly because they consider the technology to be a symbol of efficiency and modernity (Hidayat & Prasetyo, 2022). In contrast, low-income people tend to be more cautious about using new financial technologies due to the limitations of digital literacy and concerns about additional costs. This phenomenon emphasizes that the QRIS adoption strategy must be adjusted to the socio-economic characteristics of users in order to reach all levels of society.

Geographical context also plays an important role in the variation in QRIS adoption in Indonesia. In urban areas such as Jakarta, Surabaya, and Bandung, the use of QRIS has become a common practice in daily transactions, ranging from cafes, transportation, to traditional markets. However, in rural areas or islands with limited internet access, the adoption rate is still low (Huda et al., 2023). This shows that the acceptance of technology is not only influenced by individual perception factors, but also by external facilities and supporting infrastructure (facilitating conditions). The OECD (2022) emphasizes that equal access to digital infrastructure is a key factor in the success of technology-based economic transformation in developing countries. Thus, policies need to be directed not only at the promotion of use, but also at strengthening infrastructure and digital literacy in underdeveloped areas.

Although many studies have discussed the factors that affect the acceptance of financial technology, there is still a significant research gap in the context of QRIS. Most previous studies in Indonesia have focused on the adoption of e-wallets such as OVO, GoPay, and ShopeePay (Santoso & Wibowo, 2021; Rahman & Prabowo, 2022), even though QRIS has different characteristics because it is a national standard that is cross-platform and developed by monetary authorities. This fundamental difference makes the model of consumer behavior towards QRIS need to be studied specifically using the TAM framework. In addition, previous research generally examined adoption behavior in certain segments, such as students or MSME actors, while analysis of general consumer behavior on a national scale is still very limited. Therefore, this research has novelty in combining aspects of public policy, consumer behavior, and the adoption of digital financial technology in one comprehensive theoretical framework.

Theoretically, this research contributes to the development of consumer behavior literature in the context of the digital economy in developing countries. The implementation of TAM in national payment systems such as QRIS expands the scope of the model from simply individual technology adoption to being part of the national digital economy transformation. Meanwhile, practically, this research is expected to provide input for Bank Indonesia and fintech industry players in designing strategies to increase QRIS adoption based on understanding consumer behavior. Knowledge about how perceived usefulness and perceived ease of use affect attitudes and intentions of use can help in the preparation of more effective educational campaigns based on actual behavioral data.

Thus, this study has two main objectives: first, to analyze the factors in the Technology Acceptance Model (TAM) that affect consumer behavior towards the use of QRIS in Indonesia; and second, identifying the implications of consumer behavior on the strategy of strengthening the national digital payment system. Through this approach, it

is hoped that the results of the research can provide an empirical understanding of the pattern of financial technology acceptance in Indonesia while strengthening the role of QRIS in supporting inclusive, efficient, and sustainable digital economic growth.

METHODS

This study uses a descriptive quantitative approach with a theoretical framework based on the Technology Acceptance Model (TAM) developed by Davis (1989). This approach was chosen because it is suitable for measuring and analyzing the psychological factors that influence consumer behavior towards the acceptance of digital payment technology. The main focus of the study is to identify the relationship between perceived usefulness (PU), perceived ease of use (PEOU), attitude toward use (ATU), and behavioral intention (BI) towards the use of QRIS in digital transactions in Indonesia. The research design is cross-sectional, which is data collection is carried out in a certain period of time to obtain an overview of actual consumer behavior. The research data was obtained through an online survey using a structured questionnaire distributed to respondents who had used QRIS in the last six months. The study population includes active users of digital payment systems in Indonesia, with an emphasis on consumers of productive age (18–45 years) in urban and semi-urban areas.

The research instrument was developed based on indicators that have been validated in previous studies on the adoption of financial technology (Venkatesh & Bala, 2008; Dwivedi et al., 2020; Lee & Kim, 2023). Each variable was measured using a 5-point Likert scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The validity of the construct was tested through Confirmatory Factor Analysis (CFA) to ensure the conformity of the variable dimensions with the TAM theoretical model, while the reliability of the instrument was tested using Cronbach's Alpha coefficient with a minimum value of 0.70. Data analysis was carried out using the Partial Least Squares Structural Equation Modeling (PLS-SEM) method because this model is effective for testing relationships between latent variables and is suitable for use in data with non-normal distributions (Hair et al., 2021). In addition, descriptive analysis was used to describe the demographic profile of respondents as well as QRIS usage patterns based on age, income, and education level. This approach allows for a comprehensive interpretation of consumer acceptance of QRIS as part of the transformation of the national payment system.

RESULTS AND DISCUSSION

Perceived Usefulness (PU) and Its Impact on the Intention to Use QRIS Among Indonesian Consumers

The results of the data analysis show that perceived usefulness (PU) has a significant influence on consumer behavioral intentions to use QRIS in digital transactions. As many as 82.7% of respondents stated that QRIS provides real benefits in daily payment activities, especially in terms of transaction speed and efficiency. These findings reinforce the main argument in the Technology Acceptance Model (TAM) put forward by Davis (1989), that the perception of benefits is the strongest determinant of behavioral intent towards technology adoption. In the context of QRIS, the benefits felt include the ease of cross-platform payments, time efficiency, and ease of transaction tracking that provides a sense of security for users. These results are in line with the findings of Lee and Kim (2023) who show that benefit perception is the dominant predictor in the intention to use QR code-based payment systems in East Asia.

From a behavioral economics perspective, the perception of benefits in using QRIS is also related to the aspects of cost efficiency and transaction convenience. The use of

QRIS allows consumers to avoid the additional fees that usually appear on debit or credit card transactions, as well as reduce the need to carry cash. A study by Hidayat and Prasetyo (2022) shows that consumers in big cities such as Jakarta and Surabaya consider QRIS to be the most efficient payment method because it can be used at various merchants without the need to use different applications. This increases consumer satisfaction and strengthens loyalty to the national digital payment system. In the context of TAM theory, the higher the perception that technology provides economic and practical benefits, the more likely users are to form a positive attitude towards its use (Dwivedi et al., 2020).

In addition to economic benefits, QRIS also provides social and psychological benefits that are no less important. Several respondents mentioned that the use of QRIS provides a modern, practical, and safe image that reflects the digital lifestyle of urban communities. According to research by Santoso and Wibowo (2021), the perception of "social usefulness" is an additional factor that strengthens behavioral intentions towards the adoption of digital payment technology among Indonesia's young generation. The use of QRIS is also often associated with new social norms that indicate digital literacy and adaptation to financial innovation. Thus, perceived usefulness is not only related to functional benefits, but also to the symbolic value associated with the social status and modernity of the user.

Furthermore, the findings of this study show that there are significant differences between demographic groups in the perception of the benefits of QRIS. Respondents aged 18–35 years had a higher average perceived usefulness score than the age group over 45 years old. This is consistent with the findings of Widjaja and Setyawan (2023) that millennials and Gen Z tend to value QRIS as an integral part of the digital lifestyle. Meanwhile, older age groups show lower benefit perceptions because they still consider cash to be a more reliable transaction instrument. Educational factors also play an important role; highly educated individuals are quicker to understand the efficiency and transparency of transactions through QRIS than those with limited digital literacy (Huda et al., 2023). This variation shows that the effectiveness of the perception of benefits on behavioral intentions is strongly influenced by social and educational factors.

In the context of national policies, Bank Indonesia (2023) through the Indonesian Payment System Blueprint 2025 emphasizes the importance of building a payment ecosystem that focuses on the value of benefits for users. QRIS is designed not only for economic efficiency, but also to increase financial inclusion by expanding access to digital transactions for the public and MSME actors. Research by Putra and Rahmawati (2023) shows that the perception of the benefits of QRIS among MSME actors is positively correlated with increased turnover and business operational efficiency. The greater the economic benefits felt, the higher their intention to use QRIS in a sustainable manner. In the framework of TAM, this reinforces that functional benefits that can be measured concretely have a dominant role in shaping behavioral intentions.

In addition, the results of the analysis show that the perception of benefits has a mediating effect on the relationship between perceived ease of use and behavioral intention. In other words, the easier QRIS is to use, the greater the benefits that consumers feel, and ultimately increase their intention to use it regularly. These findings support the causal chain model proposed by Venkatesh and Bala (2008) in TAM3, which explains that the perception of convenience indirectly affects the intention of use through the perception of benefit. In the context of QRIS, ease of transactions and interplatform compatibility reinforce users' perception of functional and emotional benefits.

From the results of limited interviews with respondents who intensely use QRIS (more than 15 transactions per month), it was found that their main motivation was the

ease and speed of the payment process at various merchants. One of the respondents mentioned that "QRIS saves time and makes transactions cleaner without physical money." This shows that there is emotional satisfaction that users get from the efficiency of the technology. According to Kim and Park (2022), positive experiences in using technology become cognitive reinforcements of the perception of benefits, which ultimately increases user loyalty to digital technology. Therefore, the strategy to increase QRIS adoption needs to be focused on improving the user experience so that the benefits felt are stronger and more sustainable.

In general, the results of this study show that perceived usefulness plays a central role in the formation of consumer behavioral intentions towards the use of QRIS. In the macroeconomic context, this increased perception of benefits will encourage wider use of digital payment systems, strengthen transaction efficiency, and accelerate the realization of national financial inclusion. This means that every policy and innovation that is able to increase the perceived benefits, both from a functional, social, and psychological perspective will have a direct impact on increasing the use of QRIS in a sustainable manner. Therefore, fintech industry players and regulators need to ensure that service innovation, promotion, and technology infrastructure are always directed to strengthen the perception of these benefits in the eyes of consumers.

Perceived Ease of Use (PEOU) and Its Influence on Consumer Attitudes towards the Use of QRIS

The results of the study show that the perceived ease of use (PEOU) factor has a positive and significant influence on consumer attitudes (attitude toward use) in using QRIS. Most respondents (79.4%) rated the QRIS system as easy to understand, quick to use, and accessible through various digital payment platforms without requiring high technical skills. This reinforces the basic concept of the Technology Acceptance Model (TAM) which states that the perception of ease of use contributes directly to the formation of positive attitudes towards technology (Davis, 1989). Consumers who feel that QRIS does not require a great deal of effort to use tend to show a more positive attitude towards the adoption of the technology.

In the context of Indonesia's digital economy, the ease of use of QRIS can be seen from three main aspects, namely ease of access, ease of process, and ease of integration. First, QRIS can be accessed by all digital financial service providers such as GoPay, OVO, ShopeePay, DANA, and LinkAja without any system differences, thanks to the implementation of national standards by Bank Indonesia. Second, the transaction process that only requires scanning the QR code and nominal confirmation makes users feel high efficiency. Third, cross-platform integration allows users to make payments across multiple merchants without the need to switch apps. According to Venkatesh and Bala (2008), the perception of ease arises when users feel that interaction with digital systems does not pose a technical or cognitive barrier. In this case, the design of a simple and integrated QRIS system plays an important role in increasing the perception of convenience.

From the perspective of consumer behavior, ease of use is also closely related to user experience and perception of time efficiency. The study of Kim and Park (2022) found that the perception of ease improves cognitive efficiency, where users feel that they can master the system without special training. This is in line with the results of this study, where 68% of respondents stated that they can understand how QRIS works in just one use. In other words, the simple and responsive interface encourages faster adoption. This phenomenon is also supported by research by Dwivedi et al. (2020), who affirm that the perception of convenience is the main indicator of the success of digital

systems in the early stages of technology diffusion. In the context of QRIS, the perceived convenience is a strengthening factor for the formation of positive consumer attitudes towards the national digital payment system.

Furthermore, the results of the analysis show that perceived ease of use has an indirect effect on the behavioral intention to use through attitude toward use, as described in the classic TAM model (Davis, 1989). This means that ease of use first forms a positive attitude towards QRIS before affecting the actual behavior intention. These results are consistent with research by Shin et al. (2022) who found that the perception of ease influences user intentions mediatively through user attitudes in the context of digital payments in South Korea. In this study, the path coefficient between PEOU and ATU showed a value of $\beta = 0.61$, indicating a strong influence. These findings show that the perception of convenience is not only a technical factor, but also reflects the user's psychological experience in interacting with digital payment systems.

In addition, the level of perception of ease varies based on the user's category. Consumers who have used digital wallets before, such as GoPay or OVO, have a higher perceived ease of use than new users. Previous experience in using digital financial technology accelerates the adaptation to QRIS because consumers are familiar with digital interfaces and procedures. This shows the learning curve effect, where users with higher technological experience are more likely to rate the system as easy to use. These findings are in line with Rahman and Prabowo (2022), who show that previous digital experiences increase the perception of convenience and reduce barriers to the adoption of new technologies.

In terms of demographics, the survey results show that young respondents (18–35 years old) have a higher average perceived ease of use score than the age group over 45 years old. The younger generation tends to be more adaptive to new technologies because they have better digital literacy and interact more often with technology-based applications (Widjaja & Setyawan, 2023). Meanwhile, users in older age groups still face challenges in understanding digital transaction procedures, especially related to application settings and data security. Therefore, efforts to increase the adoption of QRIS need to be accompanied by an inclusive digital literacy program, especially for community groups that are not fully familiar with digital payment technology.

Policies that focus on improving ease of use have also proven effective in accelerating QRIS penetration. Through the QRIS Tuntas and QRIS Tarik Transfer Deposit (TTS) innovations launched by Bank Indonesia (2024), users can now make interbank transfers, cash withdrawals, and cash deposits using one QR code. This innovation expands the function of QRIS and adds to the perception of convenience for consumers who need greater flexibility. Research by Putra and Rahmawati (2023) found that additional features that increase the usability and convenience of the system have a significant effect on increasing user satisfaction and loyalty to QRIS. Thus, the perception of convenience not only has an effect on the early stages of adoption, but also plays an important role in retaining long-term users.

Furthermore, the perception of convenience has important economic implications in shaping digital consumption behavior in Indonesia. The easier the payment system is to use, the greater the potential for an increase in digital transaction volume, which in turn strengthens the growth of the national digital economy. The World Bank (2023) reports that increasing the adoption of digital payment systems in developing countries can increase economic efficiency by up to 0.8% of GDP. In the Indonesian context, the convenience of the QRIS system can encourage the participation of micro and small economic actors who were previously constrained by formal financial access. Thus, the perception of convenience not only has implications for individual behavior, but also

contributes to macro goals in the form of financial inclusion and digital economy transformation.

The findings of this study confirm that perceived ease of use is a fundamental determinant in shaping positive attitudes towards QRIS among Indonesian consumers. Ease of use not only encourages early adoption, but also strengthens loyalty and trust in the national digital payment system. Therefore, regulators and financial service providers need to ensure that the design of the QRIS system always prioritizes simplicity, speed, and accessibility. A user-centered approach and increasing digital literacy will be key strategies in expanding the penetration of QRIS inclusively in all levels of Indonesian society.

Attitude Toward Use (ATU) and Behavioral Intention (BI): Implications for the Sustainability of QRIS Use in Indonesia

The results of the study show that attitude toward use (ATU) has a significant influence on behavioral intention (BI) in the context of the use of QRIS by Indonesian consumers. A positive attitude towards QRIS is formed when users consider that this payment system provides real benefits, is easy to use, secure, and relevant to their daily needs. Based on the structural model analysis, the correlation coefficient between ATU and BI shows a value of $\beta = 0.73$, which means that the more positive the consumer's attitude towards QRIS, the stronger their intention is to continue using it in digital transactions. These findings support Davis' (1989) classic finding in the Technology Acceptance Model (TAM) that positive attitudes are a strong predictor of technological use behavior.

A positive attitude towards QRIS is not only formed because of a rational perception of benefits and convenience, but also because of emotional factors and trust. Users who feel secure in making transactions tend to have pleasant emotional experiences, which then reinforce positive attitudes towards the technology (Rahmawati et al., 2022). In this study, 77.8% of respondents stated that they feel comfortable using QRIS because of the high level of security, while 68% consider that QRIS helps them manage their finances more transparently. This suggests that psychological factors such as trust and convenience play a big role in shaping attitudes towards the use of financial technology.

The correlation between ATU and BI also shows that a positive attitude towards QRIS contributes to continued use behavior. Studies by Lee and Kim (2023) in South Korea and Shin et al. (2022) in China found a similar pattern: consumers who have positive experiences tend to retain long-term use. In the Indonesian context, this phenomenon is also seen in consumers who use QRIS regularly in various transaction situations, ranging from modern retail to traditional stalls. They do not only use QRIS because of obligations or promotions, but because they have formed habits and trust that the system is efficient, fast, and safe. This habit-forming process is known as habitual intention, which is the result of reinforcing repetitive behavior in the digital context (Dwivedi et al., 2020).

The results of this study also identified the moderation effect of social factors on the relationship between ATU and BI. In an increasingly digital society, social norms (subjective norms) play an important role in strengthening behavioral intentions towards the use of technology (Venkatesh et al., 2020). As many as 61% of respondents admitted to using QRIS because of the encouragement of the social environment, such as friends, family, or digital communities that recommend its use. This phenomenon indicates that the acceptance of QRIS is not only the result of individual decisions, but is also influenced by the rapidly evolving social dynamics and digital culture. In the context

of behavioral economics, these social norms can be a social catalyst that accelerates the diffusion of financial innovation at the level of the wider community.

In addition to social factors, this study found that trust in financial institutions and government regulations also contributed to an increase in the intention to use QRIS. Consumers who have a high level of trust in Bank Indonesia and digital payment service providers show higher usage intent scores than those who are skeptical of regulatory security. According to Dwivedi et al. (2022), trust in institutions is an important external factor that strengthens the relationship between attitudes and behavioral intentions in the extended TAM model. In the Indonesian context, Bank Indonesia's credibility as a monetary authority provides psychological guarantees that strengthen consumer confidence in the sustainability of the use of QRIS as a secure and transparent national payment system.

The user loyalty factor is also an important aspect in understanding the relationship between attitudes, intentions, and actual behavior. Descriptive analysis shows that 72% of QRIS users who have a positive attitude and strong intention towards this technology make transactions more than ten times per month. This shows that there is a linear relationship between intentions and actual behavior. These findings are consistent with the theory of planned behavior which states that behavioral intentions are a direct predictor of actual actions (Ajzen, 2020). In the context of QRIS, strong behavioral intentions play a role in shaping new digital habits in society, which supports Bank Indonesia's vision (2024) to build an inclusive and efficient cashless society.

In addition to individual behavioral aspects, consumer attitudes and intentions towards QRIS also have strategic implications for national economic policies. The sustainability of the widespread use of QRIS can accelerate the digitalization of the financial system and strengthen transaction efficiency in various economic sectors. According to a World Bank report (2023), any 10% increase in the use of digital payments can contribute to economic growth by 0.6% through improved transaction efficiency and small business productivity. In the Indonesian context, the high intention and positive attitude of consumers towards QRIS has the potential to expand the financial inclusion base and encourage the sustainable growth of the national digital economy.

From a theoretical perspective, the strong relationship between ATU and BI confirms the validity of the TAM model in the context of technology-based public policy. In line with the findings of Venkatesh and Bala (2008), consumers' positive attitudes towards technology reflect the integration between the perception of benefits and convenience that forms a satisfying technological experience. As such, QRIS adoption policies should focus on optimizing user experience and creating sustainable value for consumers. Educational programs that are oriented towards practical benefits, security, and ease of transactions need to be expanded to all levels of society so that positive attitudes towards QRIS continue to increase.

Overall, the results of this study confirm that attitude toward use (ATU) and behavioral intention (BI) are two key factors in ensuring the sustainability of QRIS use in Indonesia. Users' positive attitudes towards QRIS have been proven to increase the intention and frequency of use, which ultimately strengthens the economic transformation towards an efficient, secure, and inclusive digital transaction ecosystem. Therefore, the strategy to strengthen QRIS needs to be oriented towards managing a positive user experience and building public trust in the national payment system. This consumer behavior-based approach will help ensure the long-term success of financial digitalization policies in Indonesia.

CONCLUSIONS

The results of this study confirm that consumer acceptance of the QRIS digital payment system in Indonesia is greatly influenced by two main constructs in the Technology Acceptance Model (TAM), namely perceived usefulness (PU) and perceived ease of use (PEOU). These two factors play a significant role in forming a positive attitude (attitude toward use) which then increases behavioral intention towards the use of QRIS. The perception of high benefits arises because consumers rate QRIS as an efficient, secure, and relevant technology to modern lifestyles, while the perception of convenience is driven by a simple interface and cross-platform access that makes it easy for users to make transactions. The positive attitude formed from these two variables results in behavioral loyalty and the sustainability of the use of QRIS as a national digital payment instrument. Conceptually, these results reinforce the validity of TAM in the context of digital economies in developing countries and show that psychological factors and user experience are key determinants in the successful adoption of financial technology.

Based on the results of this study, there are several strategic recommendations that can be applied to strengthen the adoption and sustainability of the use of QRIS. First, Bank Indonesia and digital financial service providers need to expand digital literacy and public education programs to increase understanding of the benefits and security of digital payment systems. Second, QRIS technology design needs to be continuously developed with a user-centered design approach, so that the user experience remains efficient, simple, and enjoyable. Third, it is necessary to strengthen cybersecurity policies and personal data protection to increase public trust in the digital payment system. In addition, follow-up research needs to consider external factors such as trust in institutions, social norms, and local cultural values in enriching the TAM model, so that the analysis of consumer behavior towards technology adoption in Indonesia can be more comprehensive and contextual. With these steps, QRIS is not only a transaction instrument, but also a key pillar in building an inclusive and sustainable digital economy ecosystem in Indonesia.

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