

## RESEARCH ARTICLE

# INCREASING THE NUMBER OF QRIS MERCHANTS AND THE CHALLENGE OF LOW TRANSACTIONS: ANALYSIS OF CONSUMER FINANCIAL BEHAVIOR IN ADOPTING QR PAYMENTS IN INDONESIA

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## ABSTRACT

This research aims to analyze consumer financial behavior using QRIS from Bank Indonesia. The method used is descriptive quantitative with secondary data from the Indonesian Payment Systems Association (ASPI) via the KATADATA website. Research findings show growth in the use of QRIS by 23.97 million traders in December 2022, but the average transaction volume and value per trader is still low. Evaluation of the efforts of payment service providers shows the potential to increase the involvement of registered QRIS merchants, especially in dealing with inactive merchants. This research contributes to understanding the factors that influence consumer financial behavior regarding QRIS and evaluating the effectiveness of PJP strategies. It is hoped that the implications of this research can support the formulation of more effective policies and strategies to increase QRIS adoption and strengthen the digital payments ecosystem in Indonesia.

## KEYWORDS

QRIS, Consumer Behavior, Digital Payments, Transaction Growth

## 1. INTRODUCTION

Digital payments have become a trend that dominates the world of global finance, and Indonesia is no exception. Amid this shift, the Indonesian Standard QR Code Payment Gateway (QRIS) has emerged as one of the solutions adopted by various merchants to overcome various existing cash payment challenges. QRIS is a payment system that allows consumers to make transactions using QR codes, facilitating a faster and more efficient payment process. Even though QRIS has been around in Indonesia for several years, increasing the number of merchants accepting payments via QRIS is still a relevant issue. Meanwhile, there are challenges related to low transactions, which require analysis of consumer financial behavior in adopting QR payments in Indonesia.

The growth in the number of QRIS merchants in Indonesia is a topic that is attracting attention in the context of digital payments. Although there have been efforts by the government and the private sector to encourage QRIS adoption, there are various factors that can influence its growth rate. One of them is the level of digital literacy among merchants. As a result, a deeper understanding of consumer financial behavior and preferences is needed in adopting QRIS as a payment method. Therefore, analyzing consumer behavior is a crucial step in efforts to increase QRIS adoption and turn it into a more equitable payment solution throughout Indonesia.

Apart from the growth in the number of merchants, the challenge of low transactions is also the main focus in discussions regarding QRIS in Indonesia. Low transactions indicate that several consumers are still switching back to cash or other payment methods, even though QRIS is available. This requires us to look deeper into the factors that influence consumer preferences in using QRIS, as well as possible technical or social obstacles that hinder the use of QRIS in everyday transactions.

In addition, it is also important to consider the socio-economic impacts that may influence QRIS adoption. For example, factors such as income

level, access to QR-based devices, and community education level can play a role in determining the level of QRIS adoption. Therefore, analysis of consumer financial behavior in adopting QR payments in Indonesia must cover various dimensions including economic, social, and technical aspects.

By deepening understanding of consumer financial behavior, it is hoped that more effective and focused solutions can be developed to increase the number of QRIS merchants and overcome the challenge of low transactions. The success of QRIS in Indonesia will provide significant benefits, both for consumers who will gain access to easier digital payments and for the national economy which will feel the positive impact of accelerating the transition to wider digital payments.

It is important to understand that technological developments and innovations in the QRIS payment system can also influence consumer adoption. Advances in mobile applications, ease of use of the QRIS application, as well as the provision of additional features such as incentives, cashback, or special promotions can influence consumers' interest in adopting QRIS as a preferred payment method.

The role of regulations is very important in supporting the development of QRIS in Indonesia. Policies that support and encourage the use of QRIS, such as limiting cash transactions, regulations that make merchant registration easier, and good consumer protection, can help create an environment that is more conducive to the growth of QRIS. Therefore, analysis of consumer financial behavior must consider the impact of policies and regulations on QRIS adoption. Meanwhile, the challenge of low transactions can be overcome through education and outreach. Increasing consumer understanding about the benefits and how to use QRIS is an important step in overcoming this obstacle. Effective and easily accessible educational campaigns can accelerate changes in consumer behavior in adopting QRIS.

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QRIS adoption could bring additional benefits, such as tracking transactions and reducing the risk of money laundering, which could be an incentive for governments and financial institutions to better support the use of QRIS as a legal and secure payment method. To realize Indonesia's vision as a country that is advanced in the use of digital payment technology, a deep understanding of consumer financial behavior is needed. In this way, efforts to increase the number of QRIS merchants and overcome low transactions can be carried out more effectively. With encouragement from the government, the private sector, and the general public, it is hoped that QRIS can become a more equitable and efficient solution in the payment system in Indonesia, enabling easy access to digital financial services for all levels of society, as well as encouraging inclusive economic growth.

This research aims to investigate the dynamics of growth in the number of QRIS merchants and the challenges related to low transactions in Indonesia. The main focus of the research is analyzing consumer financial behavior in adopting the QRIS payment system presented by Bank Indonesia. With approximately 23.97 million merchants utilizing QRIS in December 2022, this research will examine the factors influencing this growth, identifying strategies that can encourage more merchants to adopt QRIS.

As the number of QRIS traders increases, data shows that the average transaction volume and value per trader still tend to be low. In overcoming this challenge, the research will investigate consumer behavior regarding the use of QRIS, understand their preferences, and identify factors that influence the size of transactions. This analysis will provide the insights needed to design strategies that can increase QRIS acceptance among consumers.

In addition, this research will evaluate the effectiveness of payment service providers' (PJP) efforts in encouraging increased transactions. By focusing on identifying inactive traders, this research will measure the extent to which PJP has been successful in stimulating the engagement of registered QRIS traders. It is hoped that the results of this evaluation can guide for optimization of the role of PJP in increasing the use of QRIS.

Furthermore, this research will develop holistic policy recommendations for the government, financial institutions, and payment service providers. These recommendations will be formulated based on research findings to increase QRIS adoption, stimulate transaction growth, and overcome obstacles that may be faced in strengthening the digital payment infrastructure in Indonesia. Thus, it is hoped that this research can make a positive contribution to the development of the digital payment ecosystem in the country.

## 2. THEORETICAL BASIS AND PRIOR RESEARCH

Portfolio Theory is a framework used in the world of finance to manage investments and design optimal investment combinations by considering risk and return. This theory was first developed by Harry Markowitz in 1952 and has become an important foundation in investment management (Markowitz, 1952). Portfolio Theory views investments as part of a larger portfolio and recognizes that investors tend to seek maximum returns with an acceptable level of risk. This theory teaches how to arrange different combinations of assets or investments to achieve optimal investment goals. Some of the key concepts in Portfolio Theory involve diversification, where investors try to minimize risk by spreading their investments across several different assets. In addition, this theory emphasizes the importance of correlation between assets, namely how asset prices move with each other, and how investors can exploit this to reduce overall portfolio risk.

Portfolio theory can be linked to the dynamics of increasing the number of QRIS merchants and the challenge of low transactions in the context of analyzing the financial behavior of consumers who adopt QR payments in Indonesia. The increase in the number of QRIS merchants reflects the portfolio diversification strategy in the consumer payments ecosystem. Consumers tend to seek a variety of payment options to manage risk and increase convenience, and increasing the availability of QRIS in various places can meet this diversification need.

The low transaction challenge, however, can be overcome by involving the concept of information asymmetry in portfolio theory. With increasing information about the existence and acceptance of QRIS, consumers can gain sufficient knowledge to overcome the uncertainty associated with low transactions. Efforts to increase consumer understanding of the benefits and risks of QR payments can reduce any information gaps that may arise.

In the context of consumer preferences, portfolio theory also reflects consumers' desire to have a variety of payment options in their financial

portfolios. An increase in the number of QRIS merchants can create new opportunities for consumers to fulfill these preferences. However, low transaction challenges may also be related to consumer preferences for certain payment methods in low transaction situations. Considering these factors in designing marketing and education strategies can help increase the adoption of QR payments in Indonesia holistically. Thus, the integration of portfolio theory in the analysis of consumer financial behavior can provide deeper insight into overcoming challenges and exploiting opportunities in expanding the use of QRIS payments in Indonesia.

Research conducted, investigates the diffusion of payments using QR codes on mobile devices (Mobile QR-code Payment/MQP) in the context of the coronavirus disease (COVID-19) pandemic by (Le, 2021). This research formulates a behavioral response model based on the integration of protection motivation theory (PMT) and the unified theory of acceptance and use of technology (UTAUT). In addition, this research also examines the importance of physical distance norms on behavioral intentions towards MQP. The research method was carried out through a web-based survey by collecting data from 411 respondents who had used or had a tendency to use MQP in Vietnam. Statistical analysis was carried out using SPSS and AMOS to verify the hypotheses. The results showed that behavioral intentions were potentiated by key factors from PMT (including perceived severity, perceived vulnerability, and self-efficacy) and key factors from UTAUT (including performance expectancy, effort expectancy, and social influence), as well as physical distance norms. In addition, perceived severity increases performance expectancies, whereas self-efficacy increases effort expectancies in MQP use. Finally, behavioral intentions and recommendations serve as indicators of MQP diffusion during the COVID-19 pandemic.

The relationship between the increasing number of QRIS merchants and the challenge of low transactions in adopting QR payments in Indonesia can be seen from a consumer behavior perspective. Factors such as performance expectations, business expectations, and social influence, identified in this research as influencing MQP behavioral intentions, may also be key factors in increasing the adoption of QR payments in Indonesia. Likewise, understanding physical distance norms and how these factors influence behavioral intentions can help overcome the challenge of low transactions and design more effective marketing strategies to increase the adoption of QRIS payments in Indonesia.

Research conducted, aims to explore the influence of payment methods using QR codes on mobile devices on payment satisfaction, by utilizing self-determination theory by (Liu et al., 2021). This research compares the effects of QR code payment methods (autonomous payment vs. dependent payment) on payment satisfaction, its mechanisms, and boundary conditions in the context of mobile payments. Four studies were conducted to test the effect of the QR code payment method on payment satisfaction. The first study involved 108 undergraduate students who were asked to recall their recent autonomous payment or dependent payment experiences. The second study assigned 74 undergraduate students to make autonomous payments or dependent payments. The third study replicated the second study but involved 75 customers in the field. The fourth study involved 134 undergraduate students in a 2 (payment method: autonomous payment vs. dependent payment) x 2 (product involvement: high vs. low) between-groups design. The results of these four studies indicate that (1) customers experience more payment satisfaction from autonomous payments than from dependent payments (study 1); (2) a sense of control mediates the effect of payment method on payment satisfaction (study 2 and study 3); and (3) product involvement moderates the mediating effect of sense of control (study 4).

In the context of the increasing number of QRIS merchants and the challenge of low transactions in adopting QR payments in Indonesia, this research provides insight into psychological factors such as payment satisfaction and a sense of control that may influence consumers' choice of QR payment methods. With the number of QRIS merchants increasing, service providers and merchants need to understand these elements to increase the adoption of QR payments in Indonesia. Marketing strategies that consider these psychological aspects can help overcome the challenge of low transactions and encourage growth in the use of QR payments in the Indonesian market.

The presence of mobile payments (m-payment) has had a disruptive impact on many sectors in the business world, especially the retail industry. Despite this, m-payment acceptance still has considerable room for improvement (Yan, Tan, Loh, Hew, & Ooi, 2021). Therefore, this study aims to determine the critical factors that influence m-payment adoption intentions, especially the type of m-payment that uses Quick Response (QR) code technology, through an expanded Mobile Technology Acceptance Model. Apart from offering several theoretical implications,

this research also provides many practical implications for stakeholders in the retail sector.

In the context of the increasing number of QRIS merchants and the challenge of low transactions in adopting QR payments in Indonesia, the findings of this research can provide insight into the critical factors influencing the adoption of QR payments, especially those involving QR code technology. Implementation of an expanded Mobile Technology Acceptance Model can help stakeholders in Indonesia to better understand the factors that influence consumer decisions regarding QR payments. By adapting marketing strategies and providing adequate QRIS infrastructure, increasing the adoption of QR payments in Indonesia can become more possible and effective.

Research conducted by Zhong and Moon (2022), investigates customer behavior regarding the use of contactless payments in China. This study specifically compares two contactless payment methods, namely payments using facial recognition and payments using QR codes on mobile devices. These technologies, which are increasingly developing, have brought about significant changes in the daily lives of Chinese people, especially in their economic activities and consumption. This research shows that perceived usefulness, perceived ease of use, and security of service can influence the perceived value and satisfaction of users associated with the use of contactless payments. Additionally, higher perceived value and satisfaction levels can drive post-adoption behavior, such as continued use and habit of using contactless payment methods or encouraging others to use contactless payment methods through word-of-mouth. However, perceived value does not have a direct influence on continued use. There are also differences in user behavior depending on whether payments use facial recognition or QR codes on mobile devices. For QR code payment users, overall, their satisfaction and post-adoption behavior are more closely related to each other than the behavior of facial recognition payment users. This research provides further information and insight into digital payments transformation and can help managers align their strategies more efficiently in the post-pandemic era.

In the context of the increasing number of QRIS merchants and the challenge of low transactions in adopting QR payments in Indonesia, this research provides a deeper understanding of the factors that influence consumer decisions regarding the use of contactless payments. The practical implications of this research can help managers design more effective marketing strategies and optimize the adoption of QR payments in Indonesia. Understanding the differences in user behavior between payments using facial recognition and QR codes can help relevant parties to adapt their approach and overcome the challenge of low transactions through strategies that better suit consumer preferences in Indonesia.

Other research aims to examine the influence of the quality dimensions of the information system success model (ISSM), perceived risk, perceived transaction speed, and an optimistic perspective on the payment experience using the Quick Response (QR) code method in mobile payments (m-payment) (Eren, 2022). To achieve this goal, a survey was conducted in Turkey involving 207 adults who had experienced using the QR code payment method. Partial least squares structural equation modeling (PLS-SEM) was used to investigate the relationship between these variables. The research results show that information quality, system quality, perceived transaction speed, and optimism significantly influence customer experience. However, service quality and perceived risks associated with QR code payments do not have an impact on customer experience. This research tries to uncover future user behavioral intentions by combining ISSM and marketing concepts, examining customer experiences of QR code payments during the pandemic period with an integrative approach. In this context, this research has theoretical implications that expand ISSM to improve technology-based financial services and omnichannel marketing.

In the context of the increasing number of QRIS merchants and the challenge of low transactions in adopting QR payments in Indonesia, the findings of this research can provide insight into the factors that influence customer experience in using QR code payments. Information quality, system quality, transaction speed, and optimism are proven to have a positive impact on customer experience, which can be applied in marketing strategies and providing more effective QRIS payment services in Indonesia. Understanding that service quality and perceived risks do not impact customer experience can help service providers and merchants focus more on improving the positive elements identified in this research to increase the adoption of QR payments in Indonesia.

### 3. RESEARCH METHODS

This research uses quantitative descriptive methods with secondary data from the Indonesian Payment Systems Association (ASPI), which is

presented on the KATADATA website. Quantitative data from ASPI is used to analyze the growth of QRIS usage and the effectiveness of payment service providers' (PJP) efforts. Data analysis was carried out using descriptive statistics, and the main source of data was the KATADATA website. This method provides a foundation for exploring QRIS adoption and PJP strategies using readily available data.

### 4. WETTING

QR Code Indonesian Standard (QRIS) is a digital payment facility presented by Bank Indonesia (BI). With this service, merchants and consumers can carry out non-cash transactions easily by scanning QR codes using smartphones. According to information provided by the Indonesian Payment Systems Association (ASPI), in December 2022, QRIS services were utilized by around 23.97 million merchants. This number recorded an increase of around 5% compared to the previous month, namely November 2022, and significant growth reaching 62% compared to December 2021. Even though there has been an increase in the number of traders utilizing QRIS, the average transaction volume and value for each trader still tend to be low. ASPI notes that throughout 2022, the average QRIS transaction volume will range from 3 to 5 transactions per month per trader. Meanwhile, the average QRIS transaction value is in the range of IDR 295,000 to IDR 510,000 per month per trader. This data shows that there is still a big opportunity to increase the average volume and nominal value of QRIS transactions at each trader. This can be influenced by a lack of activity from several traders or not placing QRIS as the main choice for transactions. ASPI highlights the need for efforts from payment service providers (PJP) to encourage increased transactions for every registered QRIS trader and identify inactive traders. Thus, it is hoped that the average volume and value of QRIS transactions per trader can experience a more significant increase (Ahdia, 2023).

### 5. AUTHOR'S OPINION

The increasing adoption of the QR Code Indonesian Standard (QRIS) as a digital payment facility in Indonesia, as presented by data from the Indonesian Payment System Association (ASPI), shows positive developments in the transformation of the payment ecosystem. In December 2022, around 23.97 million merchants utilized QRIS services, reflecting an increase of 5% compared to the previous month and significant growth of 62% compared to December 2021. This phenomenon indicates that businesses and consumers are increasingly recognizing and adopting digital payments as an integral part of everyday life.

Despite an increase in the number of merchants using QRIS, challenges appear to arise in the volume and average transaction value of each merchant. ASPI notes that in 2022, the average transaction volume will range from 3 to 5 transactions per month per trader, with the average transaction value in the range of IDR 295,000 to IDR 510,000 per month per trader. This challenge can be interpreted as an indication that there is still room to increase the involvement of traders and consumers in using QRIS, both in frequency and nominal transactions.

The cause of the low transaction volume and value could come from several traders who have not been fully active in promoting the use of QRIS, or perhaps also because of the lack of placement of QRIS as the main option for transactions. Therefore, serious efforts are needed from payment service providers (PJP) to encourage increased transactions at every registered QRIS merchant. In addition, the identification of inactive traders needs to be done so that resources can be focused more on supporting and motivating them. The need for further intervention to stimulate transaction growth. These efforts may involve more intensive education campaigns for merchants and consumers, promoting the benefits and convenience of using QRIS. The introduction of incentives or reward programs that are attractive to merchants and consumers can be an effective strategy to increase QRIS adoption.

With the collaboration between PJP, traders, and consumers, it is hoped that the average volume and value of QRIS transactions per trader can experience a more significant increase. Continuous innovation in QRIS services and the active role of various related parties will be the key to achieving the full vision of digital payment potential in Indonesia. This upgrade will not only support the growth of the digital payments ecosystem but can also make a positive contribution to financial inclusion and overall economic growth.

### 6. FINANCIAL BEHAVIOR ANALYSIS

Analysis of consumer financial behavior in adopting the QRIS payment system presented by Bank Indonesia highlights important aspects of digital financial transformation in Indonesia. As an innovative payment



method, QRIS provides convenience for consumers and merchants by utilizing QR code scanning technology via smartphone. Factors influencing consumer adoption of QRIS include user preferences, level of digital literacy, and trust in transaction security. Behavioral financial analysis will look at the extent to which consumers respond to the ease of use of QRIS, the extent to which they are willing to abandon traditional payment methods, and the extent to which concerns about security may be a barrier.

In addition, economic considerations are also a key element in analyzing consumer financial behavior. Whether QRIS adoption can provide significant financial benefits or whether there are additional incentives, such as cashback or discounts, influences consumer decisions. In addition, demographic variables such as age, income, and geographic location may also influence QRIS adoption rates. Therefore, this analysis will try to understand these complex dynamics to form a more holistic understanding of consumer financial behavior in adopting QRIS.

The involvement of payment service providers (PjPs) also needs to be analyzed, including their efforts in increasing consumer awareness, providing effective customer service, and introducing innovations to improve user experience. The success of QRIS not only depends on the ease of technology but also on the marketing strategy and support provided by PjP to consumers and traders.

Analysis of consumer financial behavior in the context of QRIS is the basis for formulating more effective marketing strategies, appropriate education, and improving QRIS features to meet consumer expectations. With a deep understanding of these aspects, more appropriate recommendations and solutions can be produced to overcome challenges and stimulate growth in QRIS adoption at the national level.

## 7. CONSUMER BEHAVIOR

Research related to consumer behavior regarding the use of QRIS shows various factors that influence preferences and the size of transactions in this payment system. First of all, consumer preferences for QRIS are often related to convenience and speed of transactions. The use of simple and fast QR code scanning technology allows consumers to make payments easily, reducing the need to carry cash or physical cards.

Apart from that, incentive aspects such as cashback, discounts, or special offers also play an important role in motivating consumers to use QRIS. These incentive programs can provide added value and provide positive encouragement for consumers to actively use QRIS, even for daily transactions.

The level of digital literacy is also a key factor in using QRIS. Consumers who are more familiar with digital technology tend to more easily adopt QRIS payments and understand the steps required to complete a transaction. Therefore, education and training related to QRIS can increase the adoption rate among consumers who may not be very familiar with this technology.

It is also important to understand that trust in transaction security is a factor that greatly influences consumer behavior. Consumers need to be confident that their financial data and information are safe when using QRIS. Therefore, transaction security and privacy protection are very important aspects of increasing consumer trust in QRIS.

In identifying factors that influence the size of transactions, it should be noted that the use of QRIS can vary depending on the type of transaction and business sector. For example, transactions in the retail sector may have different characteristics compared to transactions in the food or transportation sectors. Therefore, research needs to dig deeper to understand preferences and factors that influence transactions in specific contexts.

By investigating these aspects, a deeper understanding of consumer behavior regarding QRIS can be generated, enabling the development of more careful and relevant strategies to increase the adoption and the size of transactions in the QRIS payment system in Indonesia.

## 8. EVALUATION

Evaluation of the effectiveness of payment service providers' (PjP) efforts in encouraging increased transactions among registered QRIS merchants requires a comprehensive approach. Here are some steps that can be taken to measure the extent to which PjP has been successful in stimulating QRIS merchant engagement:

- **Transaction Volume and Value Analysis:** Analyze transaction volume and value data carried out by QRIS traders who collaborate with PjP. A comparison between the period before the PjP effort and the period

after can provide a clear picture of whether there has been a significant improvement.

- **Merchant Satisfaction Survey:** Survey registered QRIS traders to evaluate their satisfaction with PjP services. Surveys may cover aspects such as ease of use, customer support, and clarity of benefits provided by PjP.
- **Merchant Retention Data Analysis:** Observe merchant retention data in collaboration with PjP. Do traders continue to use QRIS after a certain period? If there is an increase in retention, this could be an indicator of the success of PjP's efforts in maintaining merchant engagement.
- **Evaluation of Incentive Programs:** If PjP has provided incentive programs to traders, analysis of the effectiveness of these programs becomes important. For example, how many merchants participate in incentive programs, and how much impact they have on increasing transactions.
- **Analysis of Changes in Consumer Behavior:** Seeing whether there are changes in consumer behavior regarding the use of QRIS at traders who collaborate with PjP. If there is an increase in transaction frequency or transaction value from consumers interacting with the merchant, this can be attributed to PjP efforts.
- **Use of Technology and Innovation:** Evaluate the extent to which PjP utilizes technology and innovation to improve the merchant experience. Does PjP provide additional technology solutions, such as integration with financial applications or new features that increase the attractiveness of QRIS?
- **Benchmarking with Industry:** Comparing PjP's performance with industry standards or similar competitors. If PjP is successful in gaining market share or outperforming competitors, this can be considered an indicator of success.

By combining these various approaches, a more holistic understanding can be formed of the extent to which PjP has been successful in driving increased transactions and stimulating the involvement of registered QRIS traders. This evaluation will provide a basis for strategic decision-making and the development of further initiatives to increase the effectiveness of PjP in supporting the growth of the QRIS payment system.

Holistic Policy Recommendations to Encourage QRIS Adoption:

### I. Strengthening Technology Infrastructure and Digital Literacy:

The government can take initiatives to strengthen technology infrastructure and digital literacy across the country. Digital training and education programs must be expanded, especially in rural areas. The government can also provide incentives or subsidies for companies that contribute to digital literacy and technology development at the local level.

### II. Fiscal Incentives for Traders and Consumers:

Financial institutions and the government can work together to develop fiscal incentives for traders and consumers who use QRIS. Tax discounts or transaction fee waivers can be a significant economic boost to increase adoption.

### III. Development of Additional Features and Incentive Programs:

Payment service providers (PjP) can design and introduce additional features to QRIS services, such as cashback programs, loyalty points, or special promotions. PjP can also work with merchants to create joint incentive programs that increase consumer satisfaction and encourage more transactions.

### IV. Strategic Partnerships and Collaboration:

The government, financial institutions, and PjP need to increase strategic partnerships to accelerate QRIS adoption. Close collaboration could involve telecommunications service providers, technology companies, and other private sectors to create a strong and integrated digital payments ecosystem.

### V. Consumer Protection and Transaction Security Policy:

Governments and financial institutions need to strengthen regulations and policies involving consumer protection and transaction security. Providing guarantees for the security of consumer data and funds will increase trust and comfort in using QRIS.

## VI. Focused Marketing and Education Approach:

PJP can adopt more focused marketing strategies and educational campaigns that target consumers and traders directly. Effective marketing and good education can change perceptions and increase public understanding of the benefits of QRIS.

## VII. Periodic Monitoring and Evaluation:

The government and financial institutions must carry out regular monitoring and evaluation of the implementation of the QRIS policy. These evaluations can provide insight into the effectiveness of existing policies and enable necessary adjustments to improve outcomes.

By adopting this holistic approach, it is hoped that QRIS adoption can be increased significantly, transactions will increase, and the benefits of digital payments can be felt by all levels of society. This policy recommendation is in line with the spirit of creating an inclusive and sustainable digital payments ecosystem in Indonesia.

## 9. CONCLUSION

In examining consumer behavior regarding QRIS, it can be concluded that the adoption of this payment technology is influenced by several factors. First, convenience and speed of transactions play a crucial role in attracting consumers to switch to QRIS. Incentive programs, such as cashback and discounts, have also proven effective in encouraging QRIS use. Therefore, payment service providers (PJP) can consider developing more innovative incentive strategies to increase the attractiveness of QRIS.

In addition, digital literacy is a key element that influences QRIS adoption. Targeted education needs to be improved to ensure that consumers have a sufficient understanding of how to use QRIS and its benefits. PJP can play a role in holding more intensive educational campaigns and focusing on market segments that still have low levels of digital literacy.

Transaction security is also a determining factor in the success of QRIS. PJP must continue to improve its security infrastructure and provide clear information to consumers about the steps it is taking to protect their data. In this case, collaboration with financial institutions and regulatory authorities is key to guaranteeing high-security standards.

Evaluation of PJP's effectiveness in encouraging increased transactions shows the need to improve marketing strategies and support QRIS traders. PJP needs to identify inactive traders and formulate creative approaches to motivate them to be more active in using QRIS. These steps may involve exclusive offers, additional training, or more intensive technical support.

In summarizing, holistic policy recommendations could include:

I. Strengthening Digital Education and Literacy: The government, financial institutions, and PJP need to work together to increase digital

literacy among consumers and traders. Effective educational programs can reduce barriers to understanding related to QRIS.

II. Incentive Innovation: PJP and financial institutions can design incentive programs that are more innovative and attractive to consumers and traders. This could include exclusive gifts, special discounts, or more attractive cashback programs.

III. Increased Transaction Security: PJP needs to continue to update and improve the security of the QRIS infrastructure. The government can provide strict regulations regarding data security and digital payment transactions.

IV. Collaboration Between Government, Financial Institutions, and PJP: Synergy between all parties involved, including the government, financial institutions, and PJP, is needed to create a digital payment ecosystem that is safe, efficient, and inclusive.

By implementing these recommendations, it is hoped that QRIS adoption can increase, transactions can develop rapidly, and the digital payments ecosystem in Indonesia can reach a higher level of maturity.

## REFERENCES

- Ahdiat, A., 2023, July 5. The number of QRIS merchants is increasing, but transactions are still low. Retrieved from <https://databoks.katadata.co.id/datapublish/2023/07/05/besar-merchant-qr-is-meningkat-tapi-transaksinya-masih-dalam>
- Eren, B. A., 2022. QR code m-payment from a customer experience perspective. *Journal of Financial Services Marketing*, doi:10.1057/s41264-022-00186-5
- Le, X. C., 2021. The diffusion of mobile QR-code payments: an empirical evaluation for a pandemic. *Asia-Pacific Journal of Business Administration*, 14(4), 617-636. doi:10.1108/apjba-07-2021-0329
- Liu, R., Wu, J., and Yu-Buck, G.F., 2021. The influence of mobile QR code payment on payment pleasure: evidence from China. *International Journal of Bank Marketing*, 39(2), 337-356. doi:10.1108/ijbm-11-2020-0574
- Markowitz, H., 1952. Portfolio Selection. *The Journal of Finance*, 7(1), Pp. 77-91. doi:10.2307/2975974
- Yan, L.-Y., Tan, GW-H., Loh, X.-M., Hew, J.-J., Ooi, K.-B., 2021. QR codes and mobile payments: The disruptive forces in retail. *Journal of Retailing and Consumer Services*, 58. doi:10.1016/j.jretconser.2020.102300
- Zhong, Y., and Moon, H.-C., 2022. Investigating Customer Behavior of Using Contactless Payment in China: A Comparative Study of Facial Recognition Payment and Mobile QR-Code Payment. *Sustainability*, 14(12). doi:10.3390/su14127150

