

## Behavior of Using Indonesian Standard Quick Response Code (QRIS) in Micro, Small and Medium Enterprises (MSME) in Bengkulu City



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**ABSTRACT:** The growth of internet penetration in Indonesia can also cause changes in the lifestyle of Indonesian people to become all-digital, one of which is in transacting using smartphones. Digital transaction payments refer to all types of payments using digital instruments which include mobile payments, electronic wallets, and so on. This study aims to analyze the adoption rate of QRIS payment methods in Bengkulu City from the perspective of MSME actors, study the behavioral factors of MSMEs that adopt QRIS in Bengkulu City and formulate recommendations that can be applied in the use of QRIS as a payment method by MSME actors in Bengkulu city. This study has a population of 707 business actors. The sampling technique used is non-probability sampling. Data was collected by distributing questionnaires. The questionnaire was distributed to 256 respondents of MSME actors. The selection of respondent samples used the slovin method. Statistical analysis used by the Structural Equation Model (SEM) PLS.

The results of the study show that perceived ease of use, trust and social influence have a significant effect on behavioral intentions and usage behavior. In addition, the adoption rate of the QRIS (Quick Response Code Indonesian Standard) payment method by Micro, Small, and Medium Enterprises (MSMEs) in Bengkulu City has shown significant development in recent years. The recommendations that can be applied in the use of QRIS. Recommendations that can be applied in the use of QRIS among MSMEs, focusing on strengthening digital literacy, providing incentives and collaborating with various related parties. This recommendation is given to support the digital transformation of MSMEs effectively and sustainably. It is important to increase access to digital training which includes digital literacy and the use of payment technologies such as QRIS through online platforms or in-person training.

**KEYWORDS:** MSME, QRIS, Transactions

### I. INTRODUCTION

The development of internet technology is experiencing progress and growth that can provide a new world for society. Internet technology today makes it easier for people to carry out various activities, one of which is online transactions. In Indonesia, various campaigns have been carried out to encourage digital payment transactions, especially with internet users reaching 215.6 million and the level of internet penetration which continues to increase from year to year making digital transactions very potential (APJII 2023). The growth of internet penetration in Indonesia can also cause changes in the lifestyle of Indonesians to become all-digital, one of which is in making transactions using smartphones. Digital transaction payments refer to all types of payments using digital instruments which include mobile payments, electronic wallets, and so on.

The development of technology in terms of digital transaction payments is supported by Bank Indonesia in creating non-cash transactions so as to reduce the use of cash (Milenia and Rimadias 2022). This support is mainly in line with the rising trend of a cashless society, namely the financial technology (fintech) revolution which is in line with the industrial revolution 4.0 which refers to a society that carries out payment transactions digitally. There are three advantages of a cashless society, namely 1) non-cash transactions are relatively inexpensive, 2) transactions become easier to track, and 3) transactions are more efficient. A cashless society is a phenomenon of a society that uses non-cash payments as a tool for its economic activities (Saffianah and Amir 2022). The rapidly growing presence of Fintech is both an opportunity and the biggest challenge for Indonesia today (Biduri et al. 2021). The development of electronic money in Indonesia is quite fast compared to other developing countries. Based on electronic money transaction data which shows an increasing trend, Bank Indonesia continues to strive to develop and improve the systems

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and regulations regarding electronic financial transactions in the hope that electronic money transactions can become a choice for the public as a payment transaction instrument for the advancement of the global economy in the digital era. Technology is becoming an innovative solution for financial services. This situation has encouraged Bank Indonesia to improve the payment system by launching the Quick Response Code Indonesian Standard (QRIS), a QR Code standard created by Bank Indonesia to facilitate digital payments through server-based electronic money applications (Amalia, 2016).

Based on data from Bank Indonesia (BI), electronic money transactions in the second quarter of 2021 increased by 128.7% compared to the previous year. This increase is supported by the availability of various forms of services non-cash payments such as OVO, GoPay, ShopeePay, LinkAja, DANA, QRIS, and so on. The advantages of QR codes include accurate data storage and utilization as well as long-lasting physical advantages (Akbar et al. 2019). Based on data from the Indonesian Payment System Association (ASPI), in December 2022 there were around 128 million transactions using QRIS throughout Indonesia, with a value reaching Rp12.23 trillion. This figure is a new record high, both in terms of transaction volume and nominal value. Accumulated throughout 2022, the national QRIS transaction volume reached 1 billion transactions, an increase of 117.59% compared to 2021. Then the total value of QRIS transactions in 2022 reached IDR 99.98 trillion, growing 261.81% compared to the previous year.

Since its launch, QRIS (Quick Response Code Indonesian Standard) is believed to make it easier for businesses and consumers to transact. One of them is by MSME (Micro, Small and Medium Enterprises) actors whose business activities are run by individuals, households, or small business entities. The implementation of electronic money that has been used in digital payment systems is able to facilitate transactions made by MSMEs. Because they are facilitated to transact even though they have different payment service providers with business actors. Before the existence of QRIS, business actors usually only installed one payment barcode. However, because each electronic money payment service provider (PJP) has its own QR code, making the transaction process at the merchant (MSME) less efficient and of course requiring additional costs.

### **II. METHOD**

This research will be conducted in Bengkulu City from March 2024 to July 2024. This research is conducted by distributing questionnaires directly offline to recruit respondents based on the sample characteristics determined in this study. The population in this study are MSME actors who have adopted QRIS who are domiciled in Bengkulu City, totaling 707 MSME actors.

This research is a quantitative research with data consisting of primary and secondary data. Primary data sources are obtained directly through offline field surveys at each merchant or MSME. Meanwhile, secondary data in this study is obtained from several other researchers, such as data from previous research, official statistics from the government, and others. The type of questions on this questionnaire is a rating scale and multiple choice. The measurement of variables in this study was carried out using a Likert scale. The Likert scale ranges from 1 to 5. The weights given are: 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree.

### **III. RESULT & DISCUSSION**

Business actors who have been in business longer may have more experience in using new technologies, including digital payment systems, compared to those who are just starting a business. In addition, the business sector can also play a role in determining the need for payment systems such as QRIS. By paying attention to the characteristics of the respondents, such as gender, business sector, and length of business, this study is expected to provide a more comprehensive understanding of the factors that influence the behavior of QRIS use among MSMEs.

Based on the SEM results, the perceived ease of use variable has a significant positive correlation with the length of business (correlation coefficient of 0.588, p-value <0.05), where business people with more than 4 years of experience tend to be more accepting of the use of QRIS. In addition, trust shows a significant contribution to the adoption rate among food sector businesses, as indicated by their dominance in the questionnaire results. Compared to the service and handicraft sectors, business people in the food sector have a higher level of trust in QRIS security due to frequent transactions with large numbers of customers. This sector utilizes QRIS to increase efficiency, while other sectors tend to be slower to adopt due to technical concerns and additional costs. In terms of demographics, the gender distribution of respondents is almost equal (50.39% female and 49.61% male), indicating that the adoption of QRIS technology is not influenced by gender. As for the length of the business, the majority of MSME players who adopt QRIS have been operating for 3–5 years, although there are also business players with less than 3 years and more than 5 years of experience, showing that new and established MSMEs are equally open to this digital payment innovation.

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## Behavior of QRIS Use on MSME Actors in Bengkulu City

**Table 1** Characteristics of respondent behavior

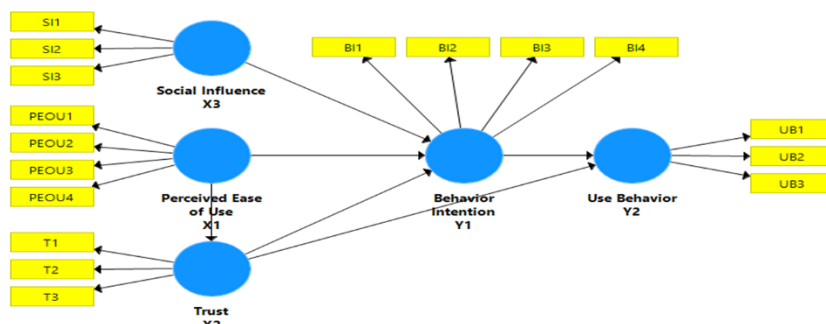
| Characteristics                                                    | People     | Persentase (%) |
|--------------------------------------------------------------------|------------|----------------|
| <b>Does your business transaction use the QRIS payment system?</b> |            |                |
| Yes                                                                | 256        | 100            |
| No                                                                 | 0          | 0              |
| <b>Have you ever used the QRIS payment system before?</b>          |            |                |
| Yes                                                                | 256        | 100            |
| No                                                                 | 0          | 0              |
| <b>Where did you hear about QRIS?</b>                              |            |                |
| Articles                                                           | 30         | 11,7           |
| Internet                                                           | 89         | 34,8           |
| Family/Friends                                                     | 129        | 50,4           |
| Magazines/Articles                                                 | 8          | 3,1            |
| <b>Reasons for choosing to use QRIS</b>                            |            |                |
| Trustworthy                                                        | 38         | 14,8           |
| Trendy environment                                                 | 49         | 19,2           |
| Easy to use                                                        | 93         | 36,3           |
| Controlled income and expenses                                     | 76         | 29,7           |
| <b>Total Number of Respondents</b>                                 | <b>256</b> | <b>100%</b>    |

This study shows that all MSME actors in Bengkulu City have consistently adopted the QRIS payment system, with 100% of respondents reporting previous use of and experience with the system. The adoption of QRIS is mainly driven by its ease of use, which enables transactions to take place quickly and efficiently, as well as the system's ability to help with more controlled financial management. In addition, interpersonal interaction, 50.4% of respondents knew about QRIS through family or friends, and the role of digital media (34.8%) contributed significantly to the dissemination of information, thus increasing understanding and interest in its use. Although the security aspect of transactions was a smaller supporting factor (14.8%), trust in the system remained an important consideration.

### Variable Indicator Description

Descriptive analysis using a Likert scale (1–5) shows that all research variables received positive ratings from respondents. On Social Influence, around 50.0% of respondents agreed (SI1) and 49.2% agreed (SI2) with the influence of social norms, while 44.5% of respondents agreed on SI3. Perceived Ease of Use also received a high rating, with 38.3–44.9% of respondents agreeing and 20.3–26.2% strongly agreeing that QRIS facilitates transactions and provides good control. For Trust, 44.5% of respondents agreed and 21.9% strongly agreed that QRIS was secure (T1), 48.0% agreed in T2, and 49.2% agreed and 19.9% strongly agreed in T3, which confirmed the reliability of the system in maintaining transaction data. Meanwhile, Behavior Intention shows that 44.9–46.1% of respondents have a strong intention to continue using and recommending QRIS, supported by Use Behavior data which shows that 57.4–52.7% of respondents agree (and 18.0–21.9% strongly agree) that QRIS supports the efficiency of their business practices.

### Analysis of Factors



**Figure 1** Outer model output results, data processed by the author in Smartpls 4.1.1 (2024)

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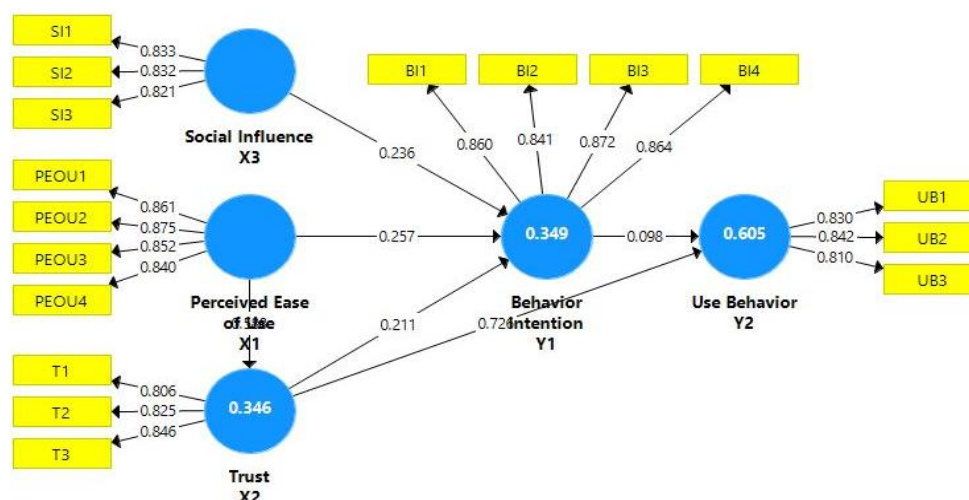


Figure 2 Outer loading output results, data processed by the author in Smartpls 4.1.1 (2024)

The analysis of the factors was carried out using primary data obtained through questionnaires and analyzed using SmartPLS version 4.1.1. The results of the SEM-PLS analysis show that the measurement model has good validity. All construct indicators show outer loading values above 0.840, which supports convergent validity, as shown in. In addition, the Average Variance Extracted (AVE) value for each construct, namely Behavior Intention (0.739), Perceived Ease of Use (0.734), Social Influence (0.687), Trust (0.682), and Use Behavior (0.685), all exceeded the minimum threshold of 0.5. The discriminant validity test using the Fornell–Larcker method and cross-loading analysis also confirmed that each construct has unique characteristics, where the diagonal value (AVE square root) is higher than its correlation with other constructs. The reliability of the measurement instrument was also proven to be strong, with Composite Reliability and Cronbach's Alpha values above 0.7 for all variables.

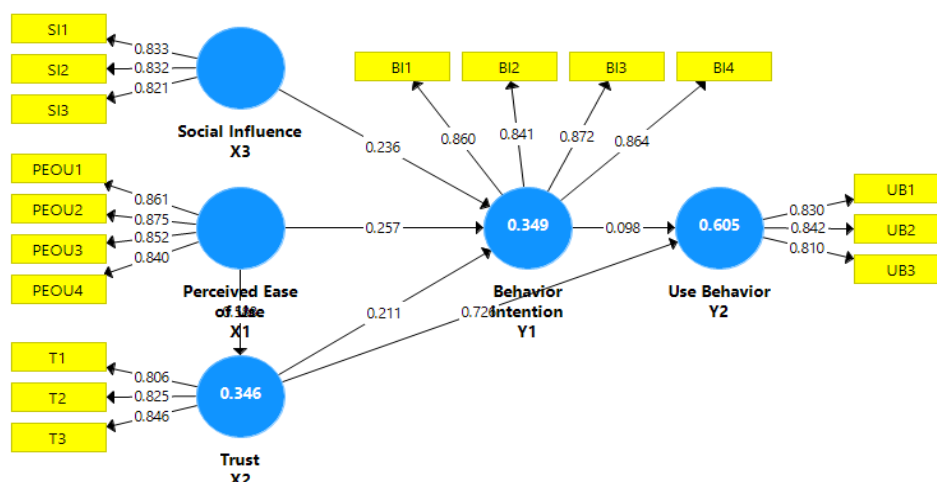


Figure 3 R-Square Test Results, processed by the author (2024)

At the structural model level, the R-Square value shows that 34.9% of the variability in Behavior Intention, 34.6% of the variability in Trust, and 60.5% of the variability in Use Behavior can be explained by the existing constructs. Hypothesis testing confirmed that Perceived Ease of Use has a significant effect on Trust ( $\beta = 0.588$ ,  $T = 10.869$ ,  $p < 0.001$ ) and on Behavior Intention ( $\beta = 0.257$ ,  $T = 3.080$ ,  $p = 0.002$ ). In addition, Social Influence also has a significant effect on Behavior Intention ( $\beta = 0.236$ ,  $T = 3.160$ ,  $p = 0.002$ ). Trust itself has a significant positive effect on Behavior Intention ( $\beta = 0.211$ ,  $T = 2.809$ ,  $p = 0.005$ ) and has a significant effect on Use Behavior ( $\beta = 0.726$ ,  $T = 17.534$ ,  $p < 0.001$ ). Behavior Intention also has a significant effect on Use Behavior ( $\beta = 0.098$ ,  $T = 2.267$ ,  $p = 0.024$ ). Mediation path analysis shows that Trust significantly mediates the effect of Perceived Ease of Use on Use Behavior (mediation = 0.427,  $T = 8.800$ ,  $p < 0.001$ ).

These findings support the theoretical framework proposed by Venkatesh et al. (2003), Mallat (2007), and Tsiakis and Stephanides (2005), which states that ease of use and trust are key factors influencing the intention and behavior of using digital payment technology. To support this analysis, important tables that must be included in the journal include. In addition, (R Square

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Test Results) and (Research Model Results) also need to be included to provide a visual overview of the relationship between constructs and model strength.

Strategic Decision Making Analysis, Adoption Rate Analysis, and Respondent Perception and Behavior Analysis

The level of adoption of the QRIS (Quick Response Code Indonesian Standard) payment method by Micro, Small and Medium Enterprises (MSMEs) in Bengkulu City has shown significant development in recent years. Based on data obtained from a survey of MSME players, around 100% of respondents have adopted QRIS as a payment method. This reflects an increased awareness among MSME players of the importance of digitization in financial transactions. QRIS is considered a practical and efficient solution, especially in supporting non-cash transactions which are increasingly in demand by the public.

However, some MSME players in Bengkulu City are still reluctant to use QRIS even though its adoption is quite high. The technical ease offered by QRIS is the main attraction for MSME players. The simple registration process via banking applications or digital wallets allows them to integrate QRIS without the need for large investments in technological infrastructure. QRIS's ability to support various payment platforms provides high flexibility, so that customers with various payment preferences can be served easily. However, unfortunately, this convenience is often only used to accept payments, without utilizing additional features that can support business management. This shows the need for more targeted interventions to help MSME actors understand and make the most of this technology. There are also issues related to the time required for transactions through QRIS, where some MSME actors feel that the flow of incoming money is slower than with cash transactions. Some MSME actors stated that they are not yet registered in the QRIS system or are not aware of this payment system, which prevents them from using it.

**Table 2 Reasons for not using QRIS**

| No | Reasons for Not Using QRIS                                                                                   |                                                                         |
|----|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
|    | Reason 1                                                                                                     | Reason 2                                                                |
| 1  | Don't understand                                                                                             | Not trusting the QRIS payment system with current business transactions |
| 2  | Don't know where to register                                                                                 | Not understanding how the system works                                  |
| 3  | Still used to cash                                                                                           | The QRIS payment system is not very helpful                             |
| 4  | The business is still in the countryside, the majority of consumers/buyers do not understand online payments | The QRIS payment system is difficult to use?                            |
| 5  | Not used to it and have never tried it                                                                       | Because it is still marketed door-to-door                               |
| 6  | No QRIS yet                                                                                                  | Not aware of the QRIS payment system                                    |
| 7  | Don't understand                                                                                             | Not registered                                                          |
| 8  | Still used to using cash                                                                                     | Not registered                                                          |
| 9  | The old cash flow                                                                                            | The QRIS payment system is not very helpful                             |

Strategic decision making is crucial in business management, especially for Micro, Small and Medium Enterprises (MSMEs) operating in the midst of competitive market dynamics. In the context of using the Indonesian Standard Quick Response Code (QRIS), the analysis of strategic decision making by MSME actors in Bengkulu City includes various factors that influence the effectiveness of the adoption of this digital payment technology.

First, MSME actors need to conduct an environmental analysis that includes identifying opportunities and challenges related to the implementation of QRIS. Emerging opportunities, such as increased accessibility to customers and efficiency in the transaction process, encourage MSME actors to consider QRIS as part of their business strategy. However, challenges such as uneven technological infrastructure and concerns about transaction security must be carefully considered in decision making.

Second, the decision-making process also involves evaluating available resources. MSME players must analyze their internal capabilities, such as technical knowledge and financial resources, to determine whether they are ready to invest in QRIS technology. In addition, it is important to take into account the costs that may arise in training staff and improving supporting infrastructure.

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Third, MSME players also need to consider their customers' preferences and behavior in decision making. With increasing consumer interest in digital payment methods, MSMEs must adapt their marketing strategies to meet customer expectations. This includes educating customers about the convenience and benefits of using QRIS in everyday transactions.

Furthermore, the analysis of strategic decision making in the use of QRIS must also consider applicable regulations and policies. MSME players need to keep up with government policy developments related to the implementation of digital payment systems, including the support and incentives that may be provided to encourage the adoption of technology.

### Managerial Implications

The results of this study provide strategic recommendations that can be applied by management in the Micro, Small and Medium Enterprises (MSMEs) sector to optimize the use of the QRIS payment system. These recommendations are based on the SEM results analysis, which shows that the variables perceived ease of use, trust, and social influence have a significant influence on QRIS adoption behavior.

Ease of use in particular shows a strong influence on adoption intentions. In managerial strategy, it is necessary to focus on facilitating the onboarding process for MSME actors, especially for those who are just starting a business. This approach can include digital guides on using QRIS. Thus, MSME actors who have limited experience in technology will feel more confident and motivated to use QRIS in their business operations.

The adoption of QRIS emphasizes the importance of building the trust of MSME actors in this system by highlighting transaction security such as encryption and automatic recording features. Trust can also be strengthened through socialization that emphasizes Bank Indonesia's supervision of QRIS providers so that business actors feel confident that the system is safe and reliable.

Meanwhile, social influence has an important role in encouraging MSME players to use QRIS. Promotional activities for the use of QRIS can be focused on community activities so that business actors can see firsthand the benefits of using QRIS. In addition, community figures or local leaders can be involved in promoting QRIS to strengthen the social norms that support the use of this technology.

## V. CONCLUSIONS

The adoption rate of the QRIS (Quick Response Code Indonesian Standard) payment method by Micro, Small and Medium Enterprises (MSMEs) in the city of Bengkulu shows significant development. This reflects the growing awareness of the importance of digitalization in financial transactions. QRIS is considered a practical and efficient payment method. Although the adoption rate of QRIS looks high, there are still challenges in its implementation. By understanding these barriers, it is hoped that this level of QRIS adoption can further support broader digital transformation in the MSME sector.

Perceived ease of use, trust and social influence have a significant effect on behavioral intentions and usage behaviors. This explains that the behavior of MSME actors towards QRIS is getting better when MSME actors using QRIS feel ease of use, trust in the application and good social influence. Perceived ease of use, trust and social influence have a significant effect on behavior intention with a positive relationship, meaning that the increasing ease of use, trust and social influence will increase behavior intention in the use of QRIS. The results of this study also prove that trust has a significant effect on use behavior, and behavior intention also has a significant effect on use behavior.

Recommendations that can be applied in the use of QRIS among MSMEs, focusing on strengthening digital literacy, providing incentives and collaborating with various related parties. This recommendation is given to support digital transformation effectively and sustainably. The provision of incentives by the government, such as subsidies for QRIS registration fees, cashback programs for consumers, and tax breaks for MSMEs that adopt QRIS, is also needed. Cooperation between the government, banks, and payment service providers is very important to educate the public about the benefits of QRIS through social media and workshops. In addition, it is necessary to improve digital infrastructure, such as affordable internet networks and technical support for MSMEs. All of these efforts will accelerate the adoption of QRIS and increase the competitiveness of MSMEs in the digital era.

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