



The Influence of Perceptions of Benefits, Trust, and Risks on the Use of QRIS by MSMEs in Purwokerto

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Perceived Benefits,
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Abstract

This study investigates the factors influencing the adoption of the Quick Response Code Indonesian Standard (QRIS) payment system among Micro, Small, and Medium Enterprises (MSMEs) in Purwokerto, Indonesia. As digital transformation accelerates, MSMEs—key contributors to Indonesia's economic growth—must adapt to technological innovations such as QRIS to enhance competitiveness and efficiency. The research aims to analyze how perceived benefits, trust, and perceived risks affect MSMEs' decisions to use QRIS in their business operations. A quantitative approach was employed involving 80 respondents from the food and beverage sector, selected through purposive sampling. Data were collected via questionnaires and analyzed using multiple linear regression to determine both partial and simultaneous effects of the independent variables. The results show that perceived benefits, trust, and perceived risks significantly influence QRIS adoption among MSMEs, both individually and collectively. The findings highlight that MSME owners are more likely to use QRIS when they perceive clear advantages, have confidence in the system's security, and face manageable risks. This research provides empirical evidence supporting policy efforts to strengthen MSME digitalization and offers practical insights for financial institutions to improve trust-based digital payment services. The study's implications underline the importance of fostering digital literacy and building secure financial ecosystems to promote inclusive economic growth.

INTRODUCTION

Technological progress cannot be avoided by modern society today. Technological developments go hand in hand with human needs to facilitate daily activities and are now applied across many sectors of life (Marpaung, 2018). One sector applying technological advances is the financial sector, currently utilizing payment systems such as e-money, e-wallets, and Quick Response (QR). This online-based payment system has been implemented globally in various parts of the world, including Indonesia. Indonesia introduced an online payment system called Quick Response Indonesia Standard (QRIS), which has been approved by Bank Indonesia since January 2020 (Maryanti, 2020).

Bank Indonesia hopes that the business community and consumers will adopt QRIS for transactions, including its use by MSMEs (Suhartini, 2017). MSMEs are the driving force of the Indonesian economy, having proven their ability to increase economic growth with a domestic contribution of 60% (Dharmayantie & Fauzan, 2017). The number of MSMEs in Indonesia has been growing rapidly—from 65.47 million in 2019 to 74.18 million in 2022 (Disperindag, 2023). Likewise, the number of MSMEs in Central Java province increases every year; in 2021 there were 173,471 MSMEs, rising to 178,821 in 2022 (Dinkop Jateng, 2021). Many MSMEs operate in Banyumas district; in 2021, there were 84,350 MSMEs recorded, with 35,174 operating in the food and beverage sector (Lestari et al., 2021).

Along with technological developments and the era of globalization, the government expects MSMEs to leverage technological advances in their business activities to remain

competitive in the global market. As a result, the government collaborates with the payment system industry to develop the QRIS application, requiring all licensed payment system service providers (PJSP) to use the QRIS system (Bank Indonesia, 2020). The QRIS application is the latest payment system developed by Bank Indonesia, compared to other electronic payment systems such as e-wallets and e-banking, and is currently being promoted more intensively. Based on data from Bank Indonesia, in 2021, 12.2 million MSMEs used QRIS, increasing to 15 million in 2022. The number of MSMEs in Purwokerto reaches thousands, with a 2023 target for 3,800 MSMEs to register as QRIS users. However, the number of MSMEs using QRIS in Purwokerto in 2021 was only 100, compared to the 230 MSMEs targeted (Antara, 2022). These data show that many MSMEs in Purwokerto have not yet adopted QRIS.

The decision of MSMEs to use QRIS is influenced by several factors, such as perceived benefits, trust, and perceived risks. QRIS as a payment tool has several advantages, including being usable anywhere, and being fast and accurate, as it does not require counting the cash in or out—tasks that, if done manually, may result in calculation errors. On the other hand, QRIS has disadvantages, such as the need for a constant internet connection, exposure to digital crime, and sometimes lengthy confirmation processes from the provider (Pramesthi, 2022). These disadvantages highlight potential issues with QRIS in terms of benefits, trust, and risk, all of which can raise doubts among MSMEs about using the system.

Similar research on the adoption of QRIS or electronic money has been conducted in several previous studies. Research by Sudiatmika and Martini (2022) concluded that perceived usefulness, perceived convenience, and perceived trust positively influence the intention to use QRIS among MSME actors (Sudiatmika & Martini, 2022). Lonardi and Legowo (2021) found that security, trust, and risk factors significantly influence the use of the QRIS payment system (Lonardi & Legowo, 2021). Meanwhile, Saputri (2020) reported that perceptions of convenience, trust, and risk do not affect the use of QRIS (Saputri, 2020). Additional studies support or nuance these findings: for example, Safitri and Fihartini (2024) showed that perceived ease of use and security significantly affect QRIS usage decisions in Lampung Province (Safitri & Fihartini, 2024). Another study by Wicaksono (2025) emphasized that trust and satisfaction are key drivers in the continued use of QRIS among Generation X (Wicaksono, 2025).

This research aims to determine and analyze the influence of perceived benefits, trust, and risks on the use of QRIS by MSMEs in Purwokerto. The subjects of this study are MSMEs in the food and beverage sector in Purwokerto, based on the assumption that these MSMEs are the highest users of QRIS. The benefit of this research is to enrich the literature on digital payment adoption among MSMEs, particularly in developing countries like Indonesia, by integrating variables of perceived benefits, trust, and risk within the context of QRIS usage.

RESEARCH METHOD

This study employed quantitative research to test and explain the relationship or influence between independent and dependent variables, utilizing research instruments and analyzing the data through statistical methods (Sugiyono, 2017). The study population comprised all MSMEs in Purwokerto that had used QRIS as a payment system. According to the Banyumas Regency Disperidagkop, as of December 2023, 270 MSMEs were using QRIS; thus, the research population totaled 270 MSMEs.

The sampling method applied was purposive sampling, focusing specifically on MSMEs in the food and beverage sector, as the majority of QRIS users in Purwokerto operated in this category—approximately 130 MSMEs. The sample size for this study was determined using Roscoe's Theory, which suggests that for studies involving multivariate analysis (such as correlation or multiple linear regression), the sample should be at least 10 times the number of variables studied (Sugiyono, 2017). In this study, the sample size was set at 20 times the number of research variables, with the calculation presented as follows:

$$\begin{aligned}\text{Sample} &= \text{number of research variables} \times 20 \\ &= 4 \times 20 = 80 \text{ research samples}\end{aligned}$$

The sample size for this research is 80 MSMEs in the food and beverage sector in Purwokerto that use QRIS.

The research variables were measured using a Likert scale with five response categories: Strongly Agree (score 5), Agree (score 4), Neutral (score 3), Disagree (score 2), and Strongly Disagree (score 1) (Sugiyono, 2017).

To test the influence of the independent variables—perceived benefits, trust, and risk—on the dependent variable, QRIS usage, multiple linear regression was applied. The regression equation was formulated as follows (Sugiyono, 2017):

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Information:

Y	: Use of QRIS
a	: constant
$\beta_1, \dots, \beta_3$	: variable regression coefficient X 1 ...
X 1	: perceived benefits
X 2	: perception of trust
X 3	: risk perception
E	: error

RESULTS AND DISCUSSION

Data Analysis Results

Multiple linear regression results

Multiple linear regression analysis in this research was carried out to determine the influence of the independent variables, namely the perception of benefits (X1), trust (X2), and risks (X3) on the use of QRIS (Y) by MSMEs in the food and beverage sector in the city of Purwokerto. After carrying out the regression analysis, the results obtained are as below.

Table 1. Multiple Linear Regression Results

Model	Unstandardized Coefficients		Standardized Coefficients
	B	Std. Error	Beta
(Constant)	,179	,730	
benefit	,379	,068	,385
trust	,230	,070	,237
risk	,472	,089	,389

source: processed data

Based on the data from the multiple linear regression analysis in the table above, the following regression equation is obtained:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

$$Y = 0.179 + 0.379X_1 + 0.230X_2 + 0.472 X_3 + e$$

The above equation can be explained in detail as follows:

- The constant value (a) from the regression results is 0.179, indicating that without the influence of the variables perception of benefit (X1), trust (X2), and risk (X3), the value of using QRIS is 0.179. This means that if the variables perception of benefit (X1), trust (X2), and risk (X3) are constant or 0, then the use of QRIS is worth 0.179. A positive constant value indicates that the use of QRIS is directly proportional or in the same direction as the variables perceived benefits (X1), trust (X2), and risks (X3).
- The perceived benefit coefficient (X1) is 0.379, indicating that there is an influence of perceived benefit on the use of QRIS. The direction of positive influence means that the higher the perceived benefits, the higher the decision of MSMEs to use QRIS. If the perception of benefits increases, then the decision of MSMEs to use QRIS will increase by 0.379.
- The coefficient value of perceived trust (X2) is 0.230, indicating that there is an influence of perceived trust on the use of QRIS. The direction of positive influence means that the higher the perception of trust, the higher the decision of MSMEs to use QRIS. If the perception of trust increases, then the decision of MSME players to use QRIS will increase by 0.230.
- The risk perception coefficient (X3) is 0.472, indicating the influence of risk perception on the use of QRIS. The positive direction of influence means that the higher the risk perception, the higher the decision of MSMEs to use QRIS. If risk perception increases, then the decision of MSME players to use QRIS will increase by 0.472.

Results of the determinant coefficient (R²)

The results of the determinant coefficients can be seen in the table below.

Table 2. determinant coefficients

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.944 ^a	0.891	0.886	1,298
a. Predictors: (Constant), risk, benefit, trust				

source: processed data

The results of the determinant coefficient test in the table above show that the value adjusted R² is 0.866. The value means that the influence of perceived benefits, trust, and risks on the use of QRIS is 86.60% and 13.40% is influenced by other variables studied. Based on the table above, it is also known that the R-value is 0.944, which shows that the relationship between perceived benefits, trust, and risks with the use of QRIS is very strong.

Simultaneous test results (F)

The results of the simultaneous test or F test can be seen in the table below.

Table 3. Simultaneous test results (F)

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1045,410	3	348,470	206,678	,000 ^b
	Residual	128,140	76	1,686		
	Total	1173,550	79			
a. Dependent Variable: use of QRIS						
b. Predictors: (Constant), risk, benefit, trust						

source: processed data

The results of the F test in the table above show that the F value is 206.678, which is greater than the F table of 3.11 ($206.678 > 3.11$) and the significance value of 0.000 is smaller than 0.05 ($0.000 < 0.05$). These values can mean that perceived benefits, trust, and risks together (simultaneously) have a significant influence on the use of QRIS.

Partial test results (t)

The results of the partial test or t-test can be seen in the table below.

Table 4. Partial test results (t)

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	,179	,730	,244	,808
	benefit	,379	,068	,385	5,599
	trust	,230	,070	,237	3,304
	risk	,472	,089	,389	5,292
a. Dependent Variable: use of QRIS					

source: processed data

Based on the results of the partial test or t-test listed in the table above, a detailed explanation can be given as follows:

- The results of the t-test on the perceived benefit variable (X1) obtained a calculated t value of 5.599 which is smaller than the t table value of 2.000 ($5.599 > 2.000$) with a significance value of 0.000 which is smaller than 0.05 ($0.000 < 0.05$). These values indicate that partially the perceived benefit variable (X1) has a significant positive effect on the use of QRIS (Y).
- The results of the t-test on the variable perception of trust (X2) obtained a calculated t value of 3.304 which is smaller than the t table value of 2.000 ($3.304 > 2.000$) with a significance value of 0.001 which is smaller than 0.05 ($0.001 < 0.05$). These values indicate that partially the perception of trust variable (X2) has a significant positive effect on the use of QRIS (Y).
- The results of the t-test on the risk perception variable (X3) obtained a calculated t value of 5.292 which is smaller than the t table value of 2.000 ($5.292 > 2.000$) with a significance value of 0.000 which is smaller than 0.05 ($0.000 < 0.05$). These values indicate that partially the risk perception variable (X3) has a significant positive effect on the use of QRIS (Y).

The influence of perceived benefits on the use of QRIS by MSMEs

The results of the analysis show that perceived benefits have a significant positive effect on the use of QRIS by MSMEs in Purwokerto. This result means that perceived benefits are a predictor or factor that can determine the use of QRIS by MSMEs. The higher the perceived benefits of QRIS owned by MSMEs, the higher or higher the decision of MSMEs to use QRIS as a payment system.

Several benefits obtained by MSMEs if they use QRIS in their business activities, such as being faster, more efficient, and not having to provide change, form a high perception of the benefits of QRIS by MSMEs. The effectiveness and efficiency of the transaction process or payment process make MSME players decide to use QRIS in their business activities. As stated by Gong and Xu (2004), perceived usefulness is a belief about decision-making, namely if you believe the system provides benefits then use it. This is also confirmed by the results of research by Sudiatmika and Martini (2022), namely that perceived usefulness has a positive effect on the intention to use QRIS by MSME players.

The influence of perceived trust on the use of QRIS by MSMEs

The results of the analysis show that perceived trust has a significant positive effect on the use of QRIS by MSMEs in Purwokerto. This result means that perceived trust is a predictor or factor that can determine the use of QRIS by MSMEs. The higher the perception of trust of MSME actors towards QRIS, the higher or increased the decision of MSME actors to use QRIS as a payment system.

The belief of QRIS users that transaction activities using QRIS are by the expectations of MSME players, they are not harmed, receive protection, and are very informative and reliable, makes MSME players decide to use QRIS. Trust is the responsibility of QRIS organizers to provide security and fulfill user expectations in transactions so that QRIS users have high trust in QRIS. The level of user trust with high trust in electronic payment systems is a factor that supports the successful implementation of electronic payment systems (Lim et al., 2017). This is confirmed by the results of research by Sudiatmika and Martini (2022), namely that the perception of trust has a positive effect on the intention to use QRIS by MSME actors. Likewise, this is confirmed by the research results of Lonardi and Legowo (2021), namely that the trust factor has a significant influence on the use of the QRIS payment system.

The influence of risk perception on the use of QRIS by MSMEs

The results of the analysis show that risk perception has a significant positive effect on the use of QRIS by MSMEs in Purwokerto. This result means that risk perception is a predictor or factor that can determine the use of QRIS by MSMEs. The higher the risk perception of MSME actors regarding QRIS, the higher or higher the decision of MSME actors to use QRIS as a payment system.

Risk is one of the factors that electronic payment users, including MSMEs, really pay attention to. MSMEs that have a high perception of the risks of using QRIS, such as the security of personal data, and small business risks because there are no errors in calculating payment transactions, don't waste a lot of time calculating the amount of change or looking for the right change, then these things will make MSME players are increasingly deciding to use QRIS as

their payment system. As stated by Pride and Ferrell (2015), risk perception is part of the psychological factors that influence purchasing decisions. This is also confirmed by the results of Lonardi and Legowo's (2021) research, namely that security, trust, and risk factors have a significant influence on the use of the QRIS payment system.

The influence of perceived benefits, trust, and risks on the use of QRIS by MSMEs

The results of the analysis show that perceived benefits, trust, and risks together or simultaneously have a significant effect on the use of QRIS by MSMEs in Purwokerto. These results mean that perceived benefits, trust, and risk are predictors or factors that can predict the use of QRIS by MSMEs in Purwokerto.

The positive perception of benefits, trust, and risks from MSME players towards the QRIS payment system can foster confidence in MSME players that using QRIS as a payment system in their business activities can provide benefits such as being effective, efficient, reducing the risk of errors in calculating income, returns and safe to use so that can minimize losses, especially financial and time losses so that MSME players with high confidence decide to use QRIS in their business activities. This can be seen in the results of the determinant coefficient test with an R-value of 0.944, which means that the relationship between perceptions of benefits, trust, and risk with the use of QRIS is very strong. It is perceived that the use of QRIS by MSMEs in Purwokerto will make their business activities more efficient and effective and ultimately be able to increase their business income.

CONCLUSION

Based on the research results described in the previous chapter above, several research conclusions were obtained, namely as follows: Perceived benefits have a positive and significant effect on the use of QRIS by MSMEs in Purwokerto. Perception of trust has a positive and significant effect on the use of QRIS by MSMEs in Purwokerto. Perception of risk has a positive and significant effect on the use of QRIS by MSMEs in Purwokerto. Perceptions of benefits, trust, and risks simultaneously have a significant effect on the use of QRIS by MSMEs in Purwokerto. Based on the conclusions of the research results mentioned above, several suggestions are given that can be used as input or recommendations to related parties. The suggestions given include the following: The organizers of the QRIS payment system can increase the benefits, and trust and further minimize the risks of the QRIS payment system so that more MSMEs use QRIS in running their business. Future researchers can carry out similar research by developing research, for example adding mediating variables or moderating variables, or expanding the research area or subject.

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