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**THE INFLUENCE OF PERCEIVED BENEFITS, PERCEIVED EASE OF USE,  
AND PERCEIVED RISK ON MSME DECISIONS IN USING QRIS AS A DIGITAL  
PAYMENT SYSTEM IN SURAKARTA**



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**Abstract**

The purpose of this study is to ascertain how MSMEs engaged in batik artisan business in Surakarta decide whether to adopt QRIS (Quick Response Code Indonesian Standard) as a digital payment method, based on their perceptions of the advantages, convenience, and risk. The study used a correlational design with a quantitative approach. This study uses primary data that was gathered from 100 batik artisan MSME owners utilizing a four-point Likert scale questionnaire. SEM-PLS (Structural Equation Model-Partial Least Square) was used for data analysis. The findings show that MSME decisions to use QRIS are significantly influenced by perceived benefits and convenience. This shows that MSMEs feel the benefits, convenience, and benefits of using QRIS. Meanwhile, risk perception does not have a significant effect. This shows that the decision to use QRIS is not influenced by risk perception. Thus, the findings of this study offer an understanding of the elements that affect the adoption of QRIS and form the basis for further security and education improvements regarding the adoption of QRIS as a digital payment system among MSMEs.

**Keywords:** Perceived Benefits, Perceived Ease of Use, Perceived Risks, QRIS

## INTRODUCTION

Advances in digital payment systems technology have transformed and influenced human lives significantly (Cakranegara et al, 2022). One of them is using electronic money, based on an app-based research agency's findings that the largest use of commonly used electronic money is 28% of retail transactions (Haryati, 2021). In a country's economy, small and medium-sized enterprises (SMEs) play an important role at the local and national levels (Myslimi, 2015). According to data from the Asian Productivity Organization, more than 75% of the national product is contributed by MSME (Najib & Fahma, 2020). The effort to digitize MSME will be an important milestone in advancing the MSME sector, being able to compete globally, and improving the well-being of the community.

The main challenge of the economy is the development of digital technology (Zuana & Sopiah 2022). The development of this digital technology, of which is the transformation of an increasingly sophisticated and inclusive payment system (Isbahi et al, 2022). There is a need for adaptability to new technologies due to the high level of competition at MSME (Buwana & Nursyamsiah, 2018; Ma'ruf et al., 2017; Mahyuni & Setiawan, 2021). In addition, many MSMEs show a rejection of change, so the rate of adoption of technology tends to be low (Putri et al., 2022). Digitalization is unavoidable and digital transactions are a must in the future, in this case considering how great the benefits MSME gains when a technology is used (Hernando Hendrick, 2017; Y. Rahmawati, 2022).

The development of MSME digitalization is not without the various challenges and problems that exist. Access to technology, markets, capital, and legal access are the problems faced by MSMEs in implementing digitalization (Balitbangda, 2023). The digital payment system of the Quick Response Code Indonesian Standard (QRIS) is a digitization that has been used by sellers, but the system faces operational constraints due to a lack of understanding from both sellers and buyers (Aryza & Lubis, 2023). In addition, cyber-attacks and fraud are two major security concerns related to the growth of digital payments, according to data from Bank Indonesia 163,000 cases of e-money fraud occurred in 2019 (Sasongko et al., 2021). Security and privacy concerns about technology will affect the level of user satisfaction and confidence (Gao et al., 2015).

On the other hand, there are various positive values in any concern about the digital payment system. Benefits such as rewards or discounts can provide user satisfaction and facilitate transactions in an efficient way (Susanto et al., 2016). User confidence and satisfaction with a system or application can be influenced by the quality of existing technology (Azizah et al., 2018). Interest in sustainable use of e-money applications in Indonesia is also significantly influenced by confidence and satisfaction, in addition to the perceived benefits (Sasongko et al., 2021). Modern payment system technology allows the conversion of cash to non-cash which is considered more economical and efficient (Parastiti et al., 2015). Factors such as perception of benefits, technology quality, confidence, and user satisfaction play an important role in promoting sustainable use of digital payment systems (Purwanto, 2023).

Factors such as perception of benefits, technology quality, confidence, and user satisfaction play an important role in promoting sustainable use of digital payment systems. The importance of the participation of users of digital financial services in encouraging the adoption of digital finance, and the impact of the environment on consumer decisions are relevant aspects in the context of developing a digital payment system (Ozili, 2018). Consumer decisions about the use of digital payments are influenced by their environment and require dynamic collaboration between society, industry, and governments/policymakers to ensure sustainable and sustainable payment system innovation in the regional economy (Niankara, 2023; Szumski, 2022). It indicates consumer behavior, interest in the use, and the decision to use e-money influenced by the perceived ease and utility (Ningsih et al., 2021; Ramadhan et al., 2016).

The digital economy is characterized by the expansion of trade transactions using the Internet as its medium. The importance of digitalization in payment systems and its role in supporting MSME is a milestone in the local and national economy. The adoption of a digital payment system like QRIS has become highly relevant, but it also presents several challenges including security concerns and lack of understanding (Pradesyah et al, 2024).

This research aims to understand how MSME's decision to use QRIS as a digital payment system is influenced by the benefits, ease, and perceived risks. It highlights the

importance of education and collaboration among stakeholders to facilitate the wider and sustainable use of digital payment technology. In the growing era of the digital economy, understanding the role of psychological and technological factors in influencing consumer decisions becomes important information for MSMEs in deciding on the facilities of the payment methods used.

## **REVIEW OF LITERATURE**

### **Digital Payment and QR Code Indonesian Standard (QRIS)**

Digital payments have a positive impact, bring fundamental changes to markets, and can boost economic efficiency so that every developing country has a chance to take advantage of the positive impact of digital payments. Digital payments are payments where transactions are made using the Internet or online (Puspita, 2019). These digital payments are capable of overcoming the constraints associated with cash such as the circulation of counterfeit money and the difficulty of finding a return (Husrizal, 2022; Pospos, 2022).

The Bank of Indonesia is implementing a digital payment innovation in the form of a QR code called QRIS (Quick Response Code Indonesian Standard). The payment system QRIS was developed to support the integration of the national digital economy and finance by a healthy balance of innovation and business for the national interest as set out in PADG No. 21/18/PADG/2019 on the Implementation of the National Standard Quick Response code.

### **Perceived Benefits**

Benefit perception is the level at which one believes that the use of technology or a system will improve work efficiency (Priambodo & Prabawani, 2016). The QRIS transaction process is considered more efficient and flexible so that it can meet expectations of transaction speed process in payment. Non-cash payments are more promising changes in the quality of service especially related to the completion of payment transactions (Lee & Shin, 2018).

### **Perceived Ease of Use**

Technological advances support the existence of a digital payment system that enables the ability to complete transactions easily and quickly. According to Davis, ease of use is a level in the individual where technology is easy to understand and understand (Darma & Devi, 2022). A system that has good convenience then will give little effort to its users. So, the convenience will affect the decision to use QRIS.

### **Perceived Risks**

The risk perception is the user's response to the uncertainty and adverse consequences that arise when using a system (Yuan et al., 2016). The risks associated with digital payments are closely related to misuse of information, fraud, and transaction errors. Perceived risks may affect the decision to use and diminish the intention or reuse of such payment systems in individuals (Glavee-Geo et al., 2020).

## **RESEARCH METHOD**

The research uses a quantitative approach with a correlational research design. Through in-depth statistical analysis, quantitative approaches are used to obtain data on the phenomena of benefit perception, ease perception, and risk perception of MSME decisions in the adoption of QRIS as a digital payment system. To determine whether there is a correlation between variables, the correlational research design is selected. In correlational quantitative research, data is collected to build and evaluate whether there is no relation between two or more variables (Sutama, 2019).

Data collection method with a four-point Likert scale questionnaire for measurement. The questionnaire was distributed to the owners of MSME Batik Artisan in Surakarta through the Cooperation, SME, and Industrial Services facilitated by the Integrated Enterprise Services Centre (PLUT) of Surakarta. The sample members are respondent owners of MSME Batik Artisan in Surakarta consisting of 100 MSME owners from a total population of 452 people owners. The selection of the sample takes into consideration the level of representation of the number of existing populations and considering that not all of the

MSME Batik Artisan in Surakarta provide payment alternatives in the form of QRIS. The purposive sampling method is deliberately used to determine samples because there is a particular consideration.

Data analysis is done using a Structural Equation Model (SEM) with a Partial Least Square (PLS), a data-based method used to predict or develop a theory that already exists. Assessment and interpretation of the PLS model consists of two stages, namely assessing the reliability and validity of instruments and evaluating structural models (AlNuaimi et al., 2021). SEM-PLS is the most suitable method that can be used to study a variety of research with complex models (Hamid & Anwar, 2019).

## RESULTS AND DISCUSSION

### Model Outer Test

The purpose of the model's outer test is to clarify how the latent variable and the manifest variable relate to each other. This can be done by defining the model specification where each indicator (variable manifests) is linked to a latent variable. These tests are conducted to confirm the validity and reliability of the measurements used in the study.

**Table 1.**  
**Model Outer Test Result**

	<b>Indicator</b>	<b>Factor Loading</b>	<b>Composite Reliability</b>	<b>Cronbach Alpha</b>	<b>AVE</b>
Usage Decision (Y)	K1	0,865	0,881	0,820	0,649
	K2	0,764			
	K3	0,814			
	K4	0,777			
Perceived Ease of Use (X2)	PK1.1	0,735	0,895	0,859	0,588
	PK1.2	0,702			
	PK2.1	0,720			
	PK2.2	0,771			
	PK2.3	0,844			

	PK3	0,819			
Perceived Benefits (X1)	PM1.2	0,733	0,926	0,907	0,642
	PM1.3	0,777			
	PM1.4	0,776			
	PM2.1	0,804			
	PM.3.3	0,853			
	PM4.1	0,868			
	PM4.2	0,788			
Perceived Risks (X3)	PR1.1	0,700	0,874	0,827	0,536
	PR1.2	0,734			
	PR1.3	0,742			
	PR1.4	0,719			
	PR2.1	0,735			
	PR2.2	0,760			

Source: Primary Data Analysis (2024)

Indicators on loading factor values and AVE (Average Variance Extracted) values are used to perform validity tests (Nasution et al., 2020). After re-testing with the removal of PM1.1, PM2.2, PM3.1, PM3.2, and PR2.3 indicators that are suspected may result in other indicators invalid and obtained results in Table 1. If the AVE value is more than 0,5 and the load factor value is greater than 0,7, then the validity test in SEM-PLS is deemed to be valid (Alshutwi et al., 2020).

Based on the results of the data processing of this study, each indicator has a value of AVE more than 0,5 and a load factor more than 0,7 with a maximum AVE of 0,649 on the construction of the use decision. It can be concluded that the indicators in this study are valid.

The reliability test is aimed at ensuring the reliability of the latent variables while the Composite reliability and Cronbach's Alpha values are greater than 0,7 (Yana et al., 2015). The resulting reliability test in Table 1 shows that the Cronbach's alpha and composite reliability values for each variable have met the requirements, namely more than 0,7. So the variables in this reliability test are good or have been met.

### Inner Model Test

The size of the independent variable required to explain the dependent variable as a structural model prediction can be determined using  $R^2$ . The higher the  $R^2$  value in this test, the better the model is studied.

**Table 2.**  
 **$R^2$  Value (R Square)**

	<b>R Square</b>	<b>R Square Adjusted</b>
Usage Decision (Y)	0,828	0,823

Source: Primary Data Analysis (2024)

The result of the  $R^2$  value of 0,828 on the size of the usage decision variable is shown in Table 2. This indicates that 82,8% of the influence on the described usage result variable is independent of the perception of benefits, ease of perception, and risk perception with the remaining 17,8% coming from other variables not covered in this study.

The predictive relevance of the data is shown in the  $Q^2$  test by requiring a result greater than zero (Sholihin & Ratmono, 2020). The blindfolding test is used to obtain a  $Q^2$  value.

**Table 3.**  
**Blindfolding Test**

	<b>SSO</b>	<b>SSE</b>	<b><math>Q^2 (1-SSE/SSO)</math></b>
Perceived Benefits (X1)	700	700	
Perceived Ease of Use (X2)	600	600	
Perceived Risks (X3)	600	600	
Usage Decision (Y)	400	192,025	0,520

Source: Primary Data Analysis (2024)

The  $Q^2$  value in Table 3 is obtained from the blindfolding test results on the usage result variable of 0,520. The usage outcome variable is worth more than zero, so this usage results variable can predict the model well.

Hypothesis testing is the decision-making process of determining an accepted or rejected hypothesis through data analysis. The test uses a 5% alpha significance. When a value  $> 1,96$  at a 5% significance, the hypothesis is accepted (Ananto et al., 2022). The influence between variables is said to be significant when the P-value is less than 0,05 and not significant if the P-value is greater than 0,05 (Nadiyah et al., 2017).

**Table 4.**

**Path Coefficient**

	<b>Original Sample (O)</b>	<b>Sample Mean (M)</b>	<b>Standard Deviation (STDEV)</b>	<b>T Statistic ((O/STDEV))</b>	<b>P Values</b>
Perceived Benefits (X1) -> Usage Decision (Y)	0,527	0,529	0,149	3,550	0,000
Perceived Ease of Use (X2) -> Usage Decision (Y)	0,346	0,342	0,150	2,304	0,021
Perceived Risks (X3) -> Usage Decision (Y)	0,056	0,060	0,079	0,709	0,478

Source: Primary Data Analysis (2024)

Table 4 shows that there is a significant correlation between the perception of benefit (X1) and the usage decision (Y) of  $3,550 > 1,966$ . The benefit perception (X1) with the usage result (Y) has P values of  $0,000 < 0,05$ , indicating an imbalance between the two variables. This indicates that H1 states that the perception of benefits influences MSMEs' decision to use QRIS as a significantly acceptable digital payment system.

The perception path of ease (X2) with the usage decision (Y) has a significant relationship with the T-statistic value of  $2,304 > 1,96$ . Then, the value of P values on both variables of  $0,021 < 0,05$  indicates a relation between the two variables. This means that H2 stating that perception of ease of use influences the decision of MSME in the use of QRIS as a digital payment system is significantly acceptable.

Then based on Table 4 of the T-statistic value on the risk perception path (X3) with the usage decision (Y) with a value of  $0,709 < 1,96$  the relationship between the two variables is not significant. The P values value on the risks perception variable (X3), with the usage decision (Y) with the value of  $0,478 > 0,05$  indicates that there is no relation between the variables. This suggests that H3 stating that risk perceptions have an influence on MSME decisions in the use of QRIS as a digital payment system is significantly rejected or unacceptable.

### **The Influence of Perceived Benefits on Usage Decisions**

The findings suggest that the perceived benefits have a significant impact on MSME's decision to adopt QRIS as a digital payment system. The results of the observation on the T-statistic value of the first hypothesis test meet the value of significance and can be stated that the relationship between the two is significant. Previous research has shown that use decisions can be influenced by perceived benefits (Ming & Jais, 2022; Mustofa & Maula, 2023; Sholihah & Nurhapsari, 2023). According to the analysis, the impact of the perception of benefits can be well accepted by the owner of the MSME. This means that the owner can apply QRIS properly and has experienced the benefits of the features provided by the payment service provider. One of the benefits that MSME feels is the automated transaction recording feature that can be seen at any time and can improve efficiency and productivity in work. So, the perceived benefits have made it a consideration for MSME owners to decide to provide QRIS payment methods.

### **The Influence of Perceived Ease of Use on Usage Decisions**

The findings show that convenience has a significant impact on MSME's decision to adopt QRIS as a digital payment system. Tests carried out on the second hypothesis stated to have met the significance value and can be concluded that there is a substantial relationship between the two based on the T-statistic value. Previous research has shown that perceived ease has a significant influence on usage decisions (A. Rahmawati & Murtanto, 2023; Singh & Sharma, 2023). Based on the analysis carried out, it can be known that the influence of the perception of convenience can be well accepted by the owner of MSME. This means that owners of the MSME handicrafts in Surakarta feel the convenience of using QRIS. The

convenience is felt when the manufacturing process, the system is easy to learn, and use so that the owner feels satisfaction and convenience in the use of QRIS. In addition, the owner can track every incoming payment easily and quickly so that it can help in financial management. The higher the individual's confidence in easy-to-use technology, the greater individual interest in the use of technology will be (Fauziyah & Prajawati, 2023).

### **The Influence of Risk Perception on Usage Decisions**

The findings indicate significantly that the risk does not influence the MSME's decision to adopt QRIS as a digital payment system. The observation results on the statistical T-value of the H3 test are stated as not meeting the significance values and can be significantly stated risk perception does not influence the use decision. Most owners of MSME handicrafts in Surakarta use QRIS because of consumer incentives, and socialization from Bank Indonesia or with certain conventional banks, so MSME owners are willing to provide QRIS as a payment system. It's related to the low-security level of QRIS use, but it's not a problem if users feel that the payment system is secure (Belanche et al., 2022; S. Rahmawati & Arfiansyah, 2023).

### **CONCLUSION**

The results of the research showed that the perceived benefits and perceived ease of use significantly influence and are a factor that drives MSMEs to use QRIS. The greater the benefits and ease that MSME perceives towards QRIS, the greater the rate of use. However, the risk perception significantly does not influence MSME's decision to adopt QRIS. There is a need for feature innovation and improved service quality to build the trust of MSMEs to be interested and continue to use QRIS as a digital payment tool. With the rapid development of payment system technology, it is suggested that further research can explore or expand new aspects related to digital payment.

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