# The effect of perception of benefits, ease of use, trust on the decision to use QRIS with attitude as an intervening variable

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**Abstract**

The purpose of this study is to empirically test the effect of perceived benefits on attitudes towards using QRIS. To empirically test the effect of ease of use on attitudes towards using QRIS. To empirically test the effect of trust on attitudes towards using QRIS. To empirically test the effect of attitudes towards decisions to use QRIS. To empirically test the effect of perceived benefits on decisions to use QRIS with attitudes as intervening variables. The method used in this study is quantitative. Questionnaires are used in collecting research data. The population in this study were all MSMEs that have used QRIS. The minimum sample is 160 respondents, so this study used 160 respondents, namely MSMEs in the city of Semarang who have used QRIS for at least 3 months. This study uses an analysis technique, namely Partial Least Square (PLS) to analyze the data.

**Keywords**:
Decisions, Ease of Use, Perceived Benefits, Trust.

**JEL Code: G11**

## INTRODUCTION

Rapid technological advances in financial transactions have led to more merchants and customers adopting more practical and efficient payment systems, including the Quick

Kristi Febi Nugrahaningrum, Delicia Kezia Rouw, Edy Raharja
The effect of perception of benefits, ease of use, trust on the decision to use qris with attitude as
an intervening variable

Response Code Indonesian Standard (QRIS). The QRIS standard, which uses QR codes to facilitate electronic payments, has become a significant advancement in the Indonesian financial industry. Many important benefits result from the use of QRIS, including increased transaction efficiency, ease of payment processes, and reduced risks associated with cash payments. However, considerations related to its implementation also have a significant impact on the success of QRIS implementation. Three main elements that may influence the choice to use QRIS in this situation are trust, ease of use, and ability (Widowati, 2022).

The convenience and variety of QRIS features support digital economic and financial inclusion as well as inter-country payment connectivity. This benefits both users and merchants, especially the MSME segment. Currently (data as of June 2023) QRIS has reached 26.7 million merchants, with 91.4% of that number being MSMEs. In line with this development, the number of QRIS transactions throughout 2022 was recorded at 1.03 billion transactions, or grew by 86% (year on year). Bank Indonesia is committed to continuing to innovate various QRIS features such as QRIS Cash Withdrawals, Transfers and Cash Deposits (TUNTAS) which will be launched soon, as well as expanding QRIS cooperation, including cooperation to expand QR Code payment interconnections with partner countries.

The simplicity of using QRIS is one of its main advantages. Transactions can be completed in seconds if the user simply scans the QR code with their smartphone and enters the desired payment amount. Having cash or original cards that may be lost or damaged is no longer necessary. The simplicity of using QRIS has increased the adoption of QRIS among users and business professionals. In addition to being convenient, QRIS has a variety of applications. QRIS is used in various contexts outside of payments at physical establishments. This includes online bill payments, money transfers between people, and even the use of QRIS for e-commerce transactions. Due to its adaptable nature, QRIS is a very relevant and helpful payment instrument in various situations (Habibah, 2021).

Another important component of QRIS is having a high level of trust. People have used this system largely because of its convenience and security features. Because QRIS implements strong security standards and encryption technology, consumers can feel safe using the payment method and complete their transactions with confidence. In addition, accurate accountability in transactions is provided by QRIS. Every transaction, including the date, time, and amount, is carefully documented. This facilitates improved financial tracking and management for individuals and organizations. In addition, QRIS facilitates the use of business intelligence technology to conduct more thorough transaction data checks (Habibah, 2021).

The challenge faced by Micro, Small, and Medium Enterprises (MSMEs) in using QRIS digital payment technology is how well MSMEs are able to understand, accept, and incorporate QRIS into their daily operations. Although QRIS offers convenience and efficiency in financial transactions, there are still obstacles that must be overcome, including the varying levels of MSME digital literacy, their opinions on the benefits of QRIS, and accessibility of IT infrastructure. In addition, security considerations play a significant role in fostering MSME trust in the implementation of QRIS (Habibah, 2021).

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Kristi Febi Nugrahaningrum, Delicia Kezia Rouw, Edy Raharja
The effect of perception of benefits, ease of use, trust on the decision to use qris with attitude as
an intervening variable

It is important to recognize that MSMEs are critical to the economy and, often, they do not have the means to fully utilize new technologies. Therefore, maintaining inclusion and equality in the digital economy requires knowledge of how MSMEs can adopt and use QRIS. A larger market can be accessed and the efficiency, speed, and transparency of MSME business transactions can be improved by increasing the use of QRIS. However, problems such as technology accessibility and digital literacy levels also need to be addressed.

As a result, studies using TAM in the context of QRIS use by MSMEs have the potential to provide in-depth information on how to encourage the expansion of the MSME sector by encouraging wider and more inclusive adoption of digital payment technology. We can create more effective strategies to encourage MSME growth and accelerate the digital transformation of this industry by understanding the attitudes, perceptions, and variables that influence QRIS acceptance (Widowati, 2022).

Attitude plays a crucial mediating role in the influence of compatibility, ease of use, and trust on the decision to use the Indonesian Standard Quick Response Code (QRIS). When users consider QRIS to be in accordance with existing values and needs, it will foster a positive attitude towards the technology (Alalwan et al., 2018). Ease of use is an important determinant of positive attitudes towards new technologies. Trust, which includes the reliability and security of QRIS, also plays an important role (Dwivedi et al., 2019). Users who trust the system tend to develop positive attitudes towards it, trust is very important in forming positive attitudes towards mobile payment systems. This positive attitude, which is formed through perceptions of compatibility, ease of use, and trust, mediates the relationship between these factors and the decision to adopt QRIS. Therefore, improving these attributes can significantly improve user attitudes, thereby increasing the likelihood of QRIS adoption (Oliveira et al. 2019).

**RESEARCH METHOD**

Primary data is directly on the research to be conducted. The primary data used in this study is questionnaire data, while secondary data for other purposes studied were conducted by others. The population in this study were all MSMEs that have used Qris. This study uses the criteria of MSMEs in the city of Semarang that have used Qris for at least 3 months. According to Kock and Hadaya (2018) the minimum sample is 160 respondents, so this study used 160 respondents, namely MSMEs in the city of Semarang that have used Qris for at least 3 months.

Questionnaires were used in data collection of the study. Primary data collection methods allow researchers to answer specific research questions and modify data collection instruments to meet the objectives of the study. In this study, a Likert scale was used. By using a Likert scale, which usually ranges from "strongly disagree" to "strongly agree", participants are given the opportunity to convey their level of sentiment on a continuum. This study used an analysis technique, namely Partial Least Square (PLS) to analyze the data.

84

Kristi Febi Nugrahaningrum, Delicia Kezia Rouw, Edy Raharja
The effect of perception of benefits, ease of use, trust on the decision to use qris with attitude as
an intervening variable

## FINDINGS AND DISCUSSION

### Outer Model

### Validity Indicator (Outer Loading)

The results of the outer loading test in this study can be seen in table 1 below:

**Table 1.**

*Outer Loading Test Results*

|  | Attitude | Decision To Use | Ease Of Use | Perception Of Benefits | Trust |
|---|---|---|---|---|---|
| ATT1 | 0.854 | | | | |
| ATT2 | 0.864 | | | | |
| ATT3 | 0.904 | | | | |
| ATT4 | 0.860 | | | | |
| DTU1 | | 0.921 | | | |
| DTU2 | | 0.862 | | | |
| DTU3 | | 0.879 | | | |
| DTU4 | | 0.927 | | | |
| EOU1 | | | 0.874 | | |
| EOU2 | | | 0.872 | | |
| EOU3 | | | 0.916 | | |
| EOU4 | | | 0.885 | | |
| POB1 | | | | 0.872 | |
| POB2 | | | | 0.907 | |
| POB3 | | | | 0.876 | |
| POB4 | | | | 0.895 | |
| POB5 | | | | 0.879 | |
| TR1 | | | | | 0.870 |
| TR2 | | | | | 0.868 |
| TR3 | | | | | 0.839 |
| TR4 | | | | | 0.871 |

Note:
Source: SmartPLS version 4 (2024)

Based on table 1, it is known that the results of the outer loading test for all indicators can be said to be valid because they have an outer loading value above 0.7.

### Construct Reliability (Cronbach Alpha and Composite Reliability)

The results of the Cronbach alpha and composite reliability tests in this study can be seen based on table 2 below:

**Table 2.**

*Reliability test results*

| Variables | Cronbach Alpha | Composite Reliability | Result |
|---|---|---|---|
| Attitude | 0.894 | 0.897 | Reliable |
| Decision To Use | 0.919 | 0.925 | Reliable |
| Ease Of Use | 0.909 | 0.910 | Reliable |
| Perception Of Benefits | 0.931 | 0.932 | Reliable |
| Trust | 0.885 | 0.887 | Reliable |

Note:
Source: SmartPLS version 4 (2024)

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Kristi Febi Nugrahaningrum, Delicia Kezia Rouw, Edy Raharja
The effect of perception of benefits, ease of use, trust on the decision to use qris with attitude as
an intervening variable

Based on table 2, it is known that all variables in this study have a Cronbach alpha and composite reliability value of more than 0.7, meaning that all variables in this study can be said to be reliable.

**Convergent Validity (AVE)**

The results of the Average Variance Extracted (AVE) test in this study can be seen in the table below:

**Table 3.**

*AVE Table*

| Variables | AVE | Result |
|---|---|---|
| Attitude | 0.758 | Valid |
| Decision To Use | 0.806 | Valid |
| Ease Of Use | 0.787 | Valid |
| Perception Of Benefits | 0.785 | Valid |
| Trust | 0.743 | Valid |

Note:

Source: SmartPLS version 4 (2024)

Based on table 3, it is known that all variables in this study can be said to be valid because they have an AVE value > 0.5.

**Goodness of Fit test (Model Fit)**

In order for the model to meet the model fit criteria, the limitations or criteria for the model fit include: SRMR or Standardized Root Mean Square value < 0.10 and NFI value > 0.9. The following are the results of the model fit assessment in this study. The Table 4 Fit Model can be seen on appendix 1.

Based on the appendix 1, it is known that the NFI value is 0.993 > 0.9 and the SRMR or Standardized Root Mean Square value is 0.058 < 0.10, so the model fits. So it can be concluded that the model fits the data.

**Inner Model**

The inner model section contains bootstrapping techniques which include the R2 test and hypothesis test.

**R($R^2$) - Square Test Results**

R-Square measures the variation explained in each endogenous construct, so it can be used as an indicator of the extent to which this model can explain the existing data. The $R^2$ value ranges from 0 to 1, and the higher the value, the higher the level of explanatory power of the model (Hair et al., 2022). The results of the R - Square ($R^2$) test in this study can be seen based on appendix 2.

Based on appendix 2, it is known that the Attitude variable can be influenced by the Ease Of Use, Perception Of Benefits and Trust variables by 77.4% and the remaining 22.6% is influenced by other variables not examined in this study. Then for the Decision To Use variable can be influenced by the Ease Of Use, Perception Of Benefits, Trust and Attitude variables by 87.8% and the remaining 12.2% is influenced by other variables not examined in this study

Kristi Febi Nugrahaningrum, Delicia Kezia Rouw, Edy Raharja
The effect of perception of benefits, ease of use, trust on the decision to use qris with attitude as
an intervening variable

**Hypothesis Testing**

The following are the results of the path model test from this study:

**Figure 1.**

*Path Model (Bootstraping)*
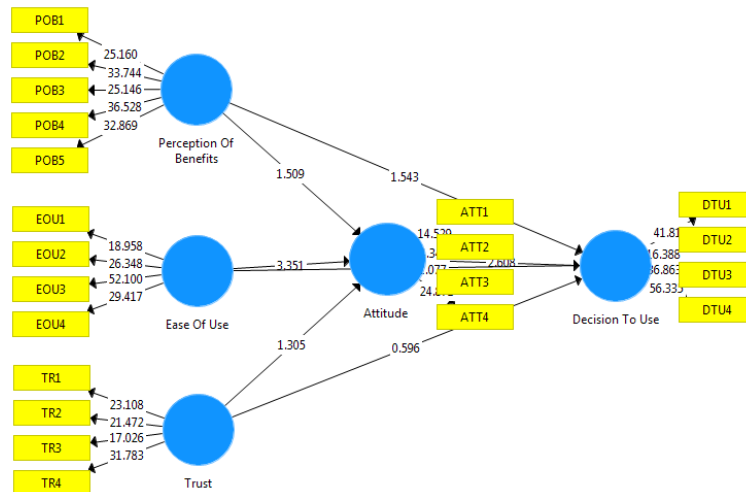


Note:
Source: SmartPLS version 4 (2024)

The path coefficients, critical values, and p-values shown in appendix 3 will be used by the researcher to further evaluate the model.

Hypothesis 1 states that the Perception Of Benefits has an influence on Attitude towards using QRIS with a path coefficient of 0.211, t-statistics of 2.524 and a p-value of $0.028 < 0.05$. So it can be concluded that H1 is accepted. Benefit perception has a big impact on attitudes about utilizing QRIS because users who see observable benefits like ease, cost savings, and faster transactions are more likely to adopt a favorable mindset. Research indicates that user acceptance and motivation are increased by perceived benefits (Zhang et al., 2021; Kahn et al., 2020). A positive attitude is fostered and adoption of QRIS rises when the functional benefits are acknowledged (Lee & Kim, 2022). In order to increase overall acceptance and utilization, this relationship emphasizes how crucial it is to explain the advantages of QRIS to prospective users (Yadav & Singh, 2023).

Hypothesis 2 states that Ease Of Use has an influence on Attitude towards using QRIS with a path coefficient of 0.529, t-statistics of 3.353 and a p-value of $0.001 < 0.05$. So it can be concluded that H2 is accepted. Users' attitudes toward utilizing QRIS are positively impacted by ease of use since they are more inclined to adopt technologies that are easy to use and intuitive. Perceived simplicity of use has been shown to improve user satisfaction and lower adoption resistance (Venkatesh et al., 2019; Alharbi & Drew, 2020). Users may become more receptive to QRIS and utilize it more frequently if they perceive it to be simple (Wang & Wang, 2021). Therefore, cultivating favorable impressions and promoting broad adoption of QRIS need increasing usability and reducing complexity (Huang & Liao, 2022).

Hypothesis 3 states that Trust has an influence on Attitude towards using QRIS with a path coefficient of 0.162, t-statistics of 2.262 and a p-value of $0.018 < 0.05$. So it can be

87

Kristi Febi Nugrahaningrum, Delicia Kezia Rouw, Edy Raharja
The effect of perception of benefits, ease of use, trust on the decision to use qris with attitude as
an intervening variable

concluded that H3 is accepted. Users' attitudes toward utilizing QRIS are greatly influenced by trust since they are more likely to embrace technologies that they believe to be dependable and safe. According to research, users' attitudes and desire to interact with QRIS are significantly impacted by high levels of trust, which also boost their confidence (Gefen et al., 2020; Chawla & Joshi, 2021). Positive attitudes are more likely to develop among users who have faith in the system's privacy and security safeguards, which will raise adoption rates (Mothobi & Sutherland, 2021). Therefore, for QRIS to be implemented successfully, confidence must be established and maintained (Lai et al., 2022).

Hypothesis 4 states that Attitude has an influence on Decision To Use with a path coefficient of 0.355, t-statistics of 2.644 and a p-value of $0.008 < 0.05$. So it can be concluded that H4 is accepted. The choice to employ QRIS is greatly influenced by attitude since favorable opinions encourage people to embrace and interact with the technology. Studies indicate that positive attitudes, influenced by perceived advantages and simplicity of use, increase the probability of actual use (Ajzen, 2020; Davis et al., 2021). High adoption rates are the consequence of users' increased motivation to include QRIS into their daily activities (Venkatesh & Davis, 2020). According to Kumar and Prasad (2023), this link emphasizes how crucial it is to cultivate a positive outlook in order to increase potential users' overall acceptance of QRIS.

Hypothesis 5 states that Attitude can mediates the influence of Perception Of Benefits on Attitude towards using QRIS with a path coefficient of 0.075, t-statistics of 2.107 and a p-value of $0.026 < 0.05$. So it can be concluded that H5 is accepted. The intention to utilize QRIS and the perception of its benefits are mediated by attitude, which means that attitudes are shaped by perceived benefits and subsequently impact usage decisions. Users are likely to adopt favorable views regarding the usage of QRIS when they are aware of its advantages, such as its efficiency and convenience, according to research (Zhang & Zhu, 2021; Alalwan et al., 2020). This mediating impact emphasizes that improving benefits perceptions is essential for fostering positive attitudes, which in turn leads to higher adoption. Therefore, methods for conveying these advantages can have a big influence on how users interact with QRIS (Kumar et al., 2022).

Hypothesis 6 states that Attitude can mediates the influence of Ease Of Use on Attitude towards using QRIS with a path coefficient of 0.188, t-statistics of 2.120 and a p-value of $0.034 < 0.05$. So it can be concluded that H6 is accepted. The relationship between ease of use and intention to use QRIS is mediated by attitude, suggesting that when users find the system easy to use, they form more positive attitudes that increase the system's chance of adoption. Research indicates that positive attitudes resulting from perceived ease of use eventually impact user involvement (Davis et al., 2019; Wang & Wang, 2021). In order to promote pleasant user experiences, this mediating role highlights how crucial it is to create user-friendly interfaces. Developers can successfully foster favorable attitudes and increase QRIS adoption rates by emphasizing ease of use (Baker & Frazier, 2022).

Hypothesis 7 states that Attitude can mediates the influence of Trust on Attitude towards using QRIS with a path coefficient of 0.057, t-statistics of 2.132 and a p-value of $0.039 < 0.05$. So it can be concluded that H7 is accepted. The relationship between trust and intention to utilize QRIS is mediated by attitude, indicating that users who have faith

88

in the system are more likely to acquire positive attitudes that support their adoption choices. According to research, consumers' opinions are greatly impacted by their level of faith in the technology's dependability and security (Gefen et al., 2020; Chawla & Joshi, 2021). Trust plays a crucial role in forming favorable attitudes since users are more likely to accept QRIS when they feel sure about it. Thus, building trust is crucial to encouraging positive user sentiments and boosting the use of QRIS (Lai et al., 2022).

**CONCLUSIONS**

Based on the results of the analysis that has been done, the conclusion of this study is Perception Of Benefits has an influence on Attitude towards using QRIS, Ease Of Use has an influence on Attitude towards using QRIS, Trust has an influence on Attitude towards using QRIS, Attitude has an influence on Decision To Use, Attitude mediates the influence of Perception Of Benefits on Attitude towards using QRIS, Attitude mediates the influence of Ease Of Use on Attitude towards using QRIS and Attitude mediates the influence of Trust on Attitude towards using QRIS.

The results of the study indicate that in order to promote favorable attitudes, user education regarding the advantages and usability of QRIS should be improved. The goal of strategies should be to increase trust by implementing security features and transparency. The perceived advantages should also be emphasized in marketing campaigns to build positive perceptions of QRIS. In order to encourage adoption even further, companies should make their interfaces easy to use and offer assistance for any issues that may arise. Future studies could examine the long-term impacts of these variables on QRIS use as well as demographic variations in attitudes and perceptions to better customize interventions.

**LIMITATION & FURTHER RESEARCH**

This research has several limitation to do. First, this paper mainly examines perception of benefit using Qris indicate that in order to promote favorable attitude, user education regarding the advantages and usability of Qris should be improved. Secondly, the perceived advantages should also be emphasized in marketing campaigns to build positive perception of Qris. Lastly, this research is focused in Semarang, and the conclusions may noy be fully applicable to other industries therefore, it is suggestion for further research could examines the long-term impacts of these variables on Qris use as well as demographic variations to better customized interventions.

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Kristi Febi Nugrahaningrum, Delicia Kezia Rouw, Edy Raharja
The effect of perception of benefits, ease of use, trust on the decision to use qris with attitude as
an intervening variable

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**Appendix 1.**

*Fit Model*

| Fit model | Result |
|-----------|--------|
| SRMR | 0.058 |
| NFI | 0.993 |

Source: SmartPLS version 4 (2024)

Kristi Febi Nugrahaningrum, Delicia Kezia Rouw, Edy Raharja
The effect of perception of benefits, ease of use, trust on the decision to use qris with attitude as
an intervening variable

**Appendix 2.**

*R-square Test Results*

| Variables | R Square |
|---|---|
| Attitude | 0.774 |
| Decision To Use | 0.878 |

Source: SmartPLS version 4 (2024)

**Appendix 3.**

*Results of Path Coefficients Hypothesis Test*

| H | Hypothesis | Original Sampel | T Statistics | P Values |
|---|---|---|---|---|
| H1 | Perception Of Benefits has an influence on Attitude towards using QRIS. | 0.211 | 2.524 | 0.028 |
| H2 | Ease Of Use has an influence on Attitude towards using QRIS. | 0.529 | 3.353 | 0.001 |
| H3 | Trust has an influence on Attitude towards using QRIS. | 0.162 | 2.262 | 0.018 |
| H4 | Attitude has an influence on Decision To Use | 0.355 | 2.644 | 0.008 |
| H5 | Attitude can mediates the influence of Perception Of Benefits on Attitude towards using QRIS | 0.075 | 2.107 | 0.026 |
| H6 | Attitude can mediates the influence of Ease Of Use on Attitude towards using QRIS | 0.188 | 2.120 | 0.034 |
| H7 | Attitude can mediates the influence of Trust on Attitude towards using QRIS | 0.057 | 2.132 | 0.039 |

Source: SmartPLS version 4 (2024)