

CONTINUOUS ANALYSIS OF CUSTOMER BEHAVIOR IN USING CONTACTLESS PAYMENTS IN YOGYAKARTA (STUDY ON QRIS PAYMENTS)

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Abstract

The use of QRIS is a fairly effective payment method during the pandemic, especially in the tourism and trade sectors. The increase in the use of QRIS is not only because of the convenience but also because of government support in the form of incentives for business actors who have used QRIS. This payment digitization encourages the people of Yogyakarta to make digital transactions. This study aims to identify and continuously analyze the usage of customer behavior in using contactless payments in Yogyakarta. The research method used is a quantitative approach method, the population in this study is the community of QRIS users as a means of transaction in making payments originating and domiciled in the Special Region of Yogyakarta (province), which consists of the people of Yogyakarta City, Sleman Regency, Kulon Progo Regency, Gunungkidul Regency, and Bantul Regency. The sample was selected for respondents aged 19-54 years as many as 100-300 respondents. The data collection technique uses a questionnaire, and the analysis technique uses the Partial Least Square (PLS) approach. The results of the analysis show that the most significant factor in influencing continuous usage is perceived ease of use (PEU) through user satisfaction (US) mediation. The findings of this study make an important contribution to system developers and managers in an effort to improve user retention. The importance of user satisfaction (US) in continuous usage (CU) emphasizes the need to develop a system that is not only easy to use but also able to provide a satisfying experience.

Keywords: Perceived Ease of Use, Perceived Usefulness, Perceived Value, User Satisfaction.

1. INTRODUCTION

The phenomenon of the coronavirus pandemic or called Covid-19 which began to occur at the end of 2019 has resulted in many countries in the world improving their health systems and pandemic control. In addition to having a negative impact on health, social, and the economy, this Covid-19 phenomenon has also brought changes to the technology-based payment system in Indonesia. This change began on August 17, 2019, when Bank Indonesia (BI) began to inaugurate QR code-based economic transactions or commonly known as the QRIS (Melati & Ikasafitri, 2021). The implementation of QRIS began to run effectively starting from January 1, 2020, and grew rapidly during the pandemic in Indonesia (Ramdhani, 2020). QRIS has begun to be intensively sought by the government to be used as a means of payment during the pandemic, where this non-cash payment method is used to avoid direct contact between sellers and buyers (Karniawati et al., 2021). On the one hand, QRIS is very effective in helping to facilitate transactions and shift transactions from cash to non-cash. However, this does not mean that these non-cash transactions are not free from problems. A number of problems from technical to security are still homework that needs to be considered by QRIS organizers, in this case, Bank Indonesia. Its internet-dependent use will usually hinder transactions if users are in

a place with a poor internet network (Januaji, 2023). This policy was then considered inappropriate because most QRIS users are small shops that are usually managed by MSMEs. On the other hand, to maintain the QRIS ecosystem can take place, there needs to be a fee charged. These costs can slow down and even threaten the adaptation of the aspired digital or cashless payments. No matter how small the cost is, it is still a cost, especially for traders who are targeted to start using QRIS. If merchants are reluctant to use QRIS for cost reasons, consumers will inevitably follow it because transactions can only be done in other ways, for example with cash. QRIS, which should be able to be a bridge to inter-country payments, is practically hampered due to cost problems (Sembiring, 2023). With all the above problems, QRIS users are still growing along with the growth of internet use in Indonesia. The phenomenon of increasing the use of QRIS during the pandemic at national retail merchants, recorded by Bank Indonesia, increased from March 22, 2020. Based on data sources made by the Indonesia Payment System Association (ASPI) in the image above, it is recorded that payments in Indonesia through QRIS as of January 2020 have reached 5 million transactions totaling Rp 365 billion. Then it increased drastically in the following month, where the trend of using QRIS increased and arrived at 91.7 million exchanges in August 2022 with an all-out exchange worth of IDR 9.66 trillion. Bank Indonesia's (BI) focus on reducing the impact of the pandemic is to encourage QRIS-based MSME digitalization as a solution to limit spending in direct or physical contact (Indonesia, 2020). Various regions in Indonesia have indeed experienced impacts and losses due to the Covid-19 pandemic, one of the affected areas is the Special Region of Yogyakarta which is included as the five provinces with the most daily Covid cases. Albeit the prominence of QRIS has expanded, particularly during the Coronavirus pandemic, Bank Indonesia Delegate Office in Yogyakarta has distinguished a few snags in the far reaching reception of QRIS. Most people, especially the elderly, have difficulty understanding and using this technology. Many elderly individuals lack the digital literacy and internet connectivity needed to utilize QRIS effectively. This demographic challenge is exacerbated by cultural preferences for cash transactions, which are deeply ingrained in everyday life. As stated by Hilman Tisnawan, Chief Representative of Bank Indonesia Yogyakarta, changing these habits and overcoming skepticism towards digital payments is a gradual process that requires continuous effort and education.

Apart from the problems above, problems also arise from the QRIS system itself such as network problems, technical problems in mobile banking applications, and difficulties in reading QR codes. A study by Natalia (2023) concerning view of convenience and security on consumer loyalty of QRIS clients for of Pay with MSMEs in the city of Yogyakarta shows that although consumers generally consider QRIS easy to use and safe, this perception is not always directly proportional to the high level of satisfaction due to the technical problems that have been mentioned. In addition, some users still feel worried about the security of their transactions, afraid of losing money or being scammed (Ginting, 2021). Despite the challenges, the potential of QRIS in Yogyakarta remains great. Ongoing efforts to integrate QRIS into everyday transactions—from retail and restaurants to parking and public services—were gradually bearing fruit. Overall, although the journey towards equitable QRIS adoption in Yogyakarta is still ongoing, the combination of strategic education, supportive policies, and

gradual cultural change promises a positive future. The increasing acceptance and adaptation to digital payments in the region could ultimately lead to a more efficient, inclusive, and resilient digital economy (Susilo, 2024)

2. METHODS

The research method used uses a quantitative approach. The population in this study is the community that uses QRIS as a means of transaction in making payments originating and domiciled in the Special Region of Yogyakarta (province). QRIS users can be further explained as users who are not limited to mobile banking users only, but include other application users who support transactions to scan QRIS codes. The number of samples is set to range from 100-300 samples according to the ideal sample statement (Sekaran, 2017; 54). Hair et al. (2013; 176) also stated that a sample size of 100 to 200 people would be considered more optimal to accurately estimate errors in data sampling. The sample was selected for respondents aged 19-54 years who came from and are currently domiciled in the Special Region of Yogyakarta with Identity Card validation. Data was collected with the help of a tool in the form of a questionnaire, this study will test the hypothesis using the Partial Least Square (PLS) approach based on data analysis techniques in the Smart PLS SEM software.

3. RESULTS

Measurement Model Analysis (Outer Model)

In the analysis of the measurement model, the researcher conducted several tests, namely the validity test, reliability test.

Validity test

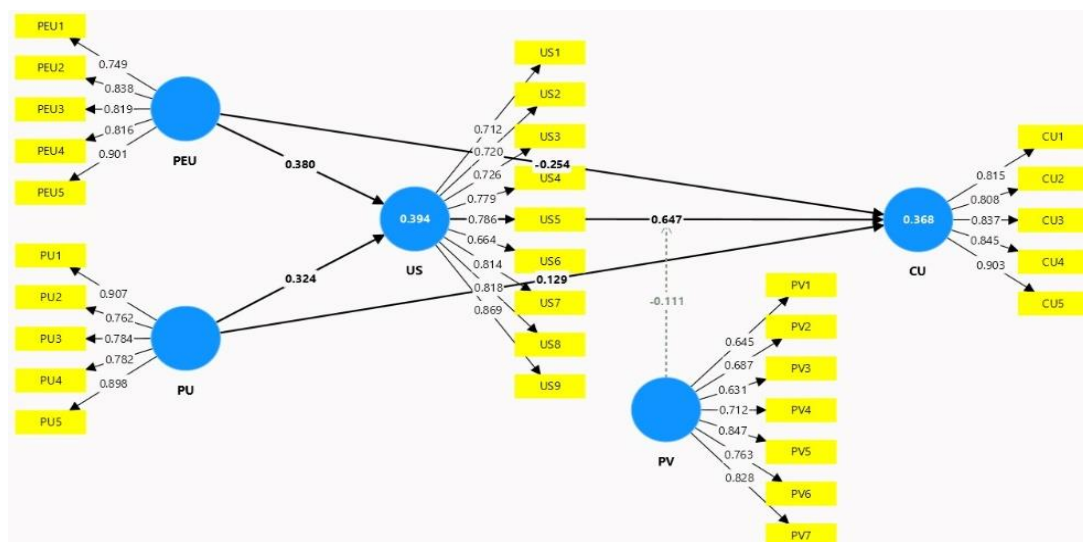


Figure 1: Results of Research Model

Source: Researcher's results (2024)

From the outer loading table, it was found that there were items that had a correlation value below 0.7. The items are PV1 = 0.645; PV=0.687; PV3=0.631; PV4=0.712, and US6 = 0.664. Therefore, retesting was carried out by deleting these items. Furthermore, a revalidation test was carried out by deleting several items that did not meet the criteria. These items are PV1, PV2, PV3, PV4, and US6. Results obtained from validity tests.

After the elimination of 5 items, namely PV1, PV2, PV3, PV4, and US6, the test was repeated. After that, the results were obtained that the correlation value on all items was above 0.7 which is the limit of the error of the correlation value. So it can be concluded that all items in each variable are said to be valid and can be continued to the next stage. Here is the research model 2 for outer loading:

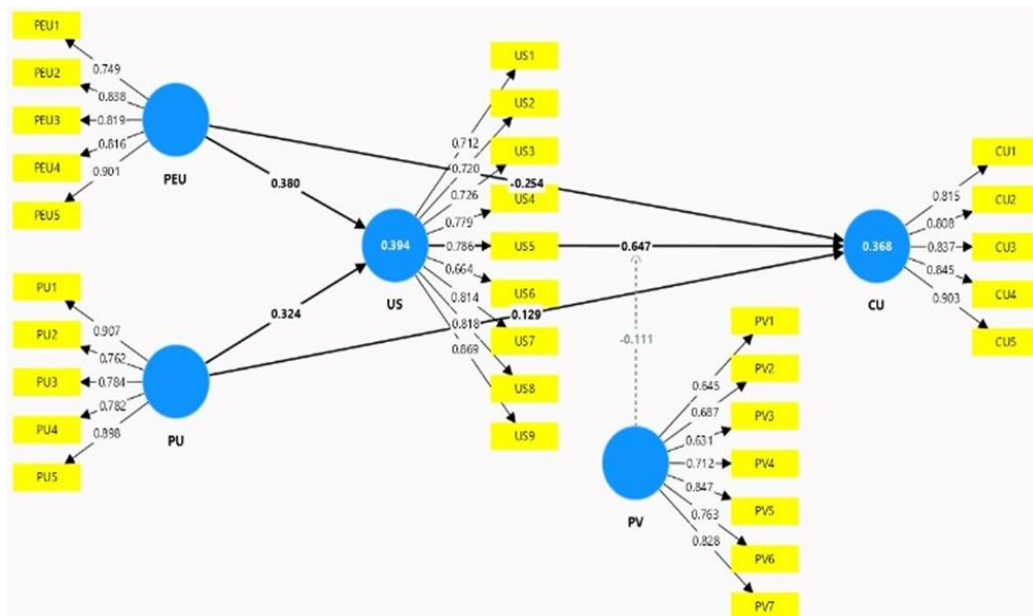


Figure 4.3: Research Model 2

Source: Researcher's results (2024)

Reliability Test

Table 1: Reliability Test

Variable	Cronbach's Alpha
Continuous Usage (CU)	0,898
Perceived Ease of Use (PEU)	0,885
Perceived Usefulness (PU)	0,885
Perceived Value (PV)	0,867
User Satisfaction (US)	0,909

Source: Researcher's results (2024)

Based on the results in the table above, it was found that Cronbach's Alpha in each variable was above 0.70. Therefore, it can be concluded that all variables have good reliability.

Structural Model Analysis (Inner Model)

In this analysis, the tests carried out consisted of the t-test, the F-square test, and the Goodness of Fit test.

Path Coefficient Test

In the path coefficient, each variable will be depicted with positive and negative symbols. The following are the results of the path coefficient test.

Table 2: Path Coefficient Test

	<i>Path Coefficients</i>
PEU -> CU	-0,298
PEU -> US	0,405
PU -> CU	0,168
PU -> US	0,308
PV-> CU	-0,220
US -> CU	0,704

Source: Researcher's results (2024)

According to (Sekaran, 2017; 54) If the value of path coefficients is between 0 and 1, the relationship can be declared positive. If the value of path coefficients is in the range of -1 to 0, the relationship is declared positive. From the results of the study, it can be concluded that all relationships between variables have a positive relationship except for the variable relationship between perceived of use and continuous usage as well as perceived value and continuous usage.

Test t

The t-test is a way to see the relationship between dependent and independent variables. The t-test is said to be significant if the t-statistics value > 1.96 or the p-value <0.05 (Ghozali, 2018; 98).

Table 3: Statistical t-test

Variable	t-statistics	P-Value
PEU → CU	1,099	0,272
PEU → US	1,308	0,191
PU → CU	0,667	0,505
PU → US	0,613	0,540
PV → CU	0,529	0,597
US → CU	1,899	0,058
US → PV → CU	1,082	0,278

Based on the table above, it was found that all p-values > 0.05 and t-statistic values < 1.96. So it can be concluded that all of the above variable relationships do not have a significant effect.

F-Square Test

According to the F-square test, researchers can find out whether the relationship between these variables is classified as low, medium, and high (Ghozali, 2018; 56).

Table 4: F-Square Test

Variable	F-square
PEU → CU	0,067
PEU → US	0,180
PU → CU	0,023
PU → US	0,104
PV → CU	0,020
US → CU	0,222

Based on the table above, the following conclusions are obtained:

PEU has a low influence on CU with a value of F-square 0.067, PEU has a moderate influence on US with a value of F-square 0.180, PU has a low influence on CU with a value of F-square 0.0230. PU has a low influence on US with a value of F-square 0.104. PV has a low influence on CU with a value of F-square 0.020. PV has a high influence on CU when moderated with a value of F-square = 0.49

The Goodness of Fit test is one of the tests that aims to determine how good a research model is between variables. In determining how accurate the research model is, researchers can see from the AVE and R-square values.

Table 5: The AVE and R-square values

	AVE	R ²
<i>Continuous Usage</i>	0,710	0,366
<i>User Satisfaction</i>	0,613	0,406

$$GoF = \sqrt{AVE \times Avg R^2}$$

$$GoF = \sqrt{0.662 \times 0.386}$$

$$GoF = 0.506$$

According to Tenenhaus et al. (2004; 78), the Goodness of Fit value is considered small if it has a result of 0.1; while if it has a yield of 0.25; and high if it has a yield of 0.35. From the calculation results, it is known that the Goodness of Fit value in this study is 0.506. This means that this research model can be said to be high and good.

Test Hypothesis

For hypothesis testing, it is carried out using bootstrapping test analysis. From the results of the bootstrapping test, the results of the hypothesis in the path coefficients table are obtained. Here are the results of the bootstrapping test.

Table 6: Bootstrapping Test Results

	P-value	Keterangan
PEU -> CU	0,019	Hipotesis diterima
PU -> CU	0,158	Hipotesis ditolak
PEU -> US -> CU	0,034	Hipotesis diterima
PU -> US -> CU	0,080	Hipotesis ditolak
US,PV -> CU	0,036	Hipotesis diterima

From the table above, it can be concluded as follows:

Perceived ease of use has a significant effect on continuous usage because the $p\text{-value} = 0.019 < 0.05$. Therefore, it can be concluded that Hypothesis 1 is accepted.

Perceived usefulness is not significant for continuous usage because the $p\text{-value} = 0.158 > 0.05$. So it can be concluded that Hypothesis 2 is not accepted.

Perceived ease of use has a significant effect on continuous usage when mediated by user satisfaction because the $p\text{-value} = 0.034 < 0.05$. Therefore, it can be concluded that Hypothesis 3 is accepted.

Perceived usefulness has no significant effect on continuous usage when mediated by user satisfaction because the $p\text{-value} = 0.08 > 0.05$. So it can be concluded that Hypothesis 4 is not accepted.

Perceived value strengthens the relationship between user satisfaction and continuous usage because the $p\text{-value} = 0.036 < 0.05$. So it can be concluded that Hypothesis 5 is not accepted.

4. CONCLUSION

The findings of this study answer five questions formulated in the study. Perceived ease of use (PEU) has a significant influence on continuous usage, as evidenced by the $p\text{-value} = 0.019 < 0.05$. This shows that the ease of use of the system plays an important role in encouraging the sustainability of use by users. Perceived usefulness (PU) does not have a significant influence on continuous usage, with $p\text{-value} = 0.158 > 0.05$. This means that while the system is considered useful, it is not enough to ensure its sustainable use.

User satisfaction (US) was proven to mediate the relationship between perceived ease of use (PEU) and continuous usage, with a $p\text{-value} = 0.034 < 0.05$. This shows that user satisfaction plays an important role in facilitating the influence of PEU on CU.

User satisfaction (US) does not mediate the relationship between perceived usefulness (PU) and continuous usage, which is indicated by a $p\text{-value} = 0.080 > 0.05$. This shows that although the user is satisfied, the PU does not sufficiently influence the CU significantly through US mediation. Perceived value (PV) has a significant influence in moderating the relationship between user satisfaction (US) and continuous usage (CU), with $p\text{-value} = 0.036 < 0.05$. This indicates that the perceived value perception of the user reinforces the relationship between user satisfaction and the sustainability of the use of the system. Overall, the most significant factor in influencing continuous usage is perceived ease of use (PEU) through user mediation

This study also adds new insights by showing that perceived value (PV) does not play a role as a moderator that strengthens the relationship between user satisfaction and continuous usage. This challenges some existing assumptions that user-perceived value will always reinforce the relationship between satisfaction and sustainable usage behavior. These findings open up room for further research, especially in exploring other variables that may have a stronger role in influencing those relationships.

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