JOURNAL SYNTAX IDEA
p–ISSN: 2723-4339 e-ISSN: 2548-1398
Vol. 6, No. 06, Juni 2024

ANALYSIS OF FACTORS AFFECTING USER SATISFACTION WITH USING THE QUICK RESPONSE CODE INDONESIAN STANDARD (QRIS) PAYMENT SYSTEM

Muhammad Daffa Satria Meidi Prakosa, Anderes Gui
Bina Nusantara University, Indonesia
Email: muhammad.prakosa@binus.ac.id, anderesgui@binus.edu

Abstract

Quick Response Indonesian Code (QRIS) is a new innovation that makes payments faster compared to other digital payments as it takes less than a minute to make a payment. Implementing QRIS has a reputation for making every transaction fast, easy and effective. Due to its effectiveness and ease of use, QRIS has exploded in popularity across Indonesia and across generations. Purpose this study explores which factors may influence user satisfaction when using the Quick Response Indonesia standard payment system. In this study, the researchers used a quantitative descriptive study. Based on research conducted by distributing questionnaires to 400 respondents, the results obtained from the correspondent questionnaire were that the percentage of QRIS users was 43.5% between 17-22 years, 38.7% between 22-30 years, 13.2% over 30 years and 4 .6% over 30 years.
Keywords: QRIS, User Satisfaction, Perceived Ease of Use, Perceived Usefulness, SmartPLS.

INTRODUCTION

Evolving technologies significantly influence the development of diverse information systems. One notable example is the Quick Response Indonesia Standard (QRIS), a digital payment system implemented in collaboration with Bank Indonesia to enhance the efficiency, speed, and security of QR code-based transactions (Ameen, Al-Ali, Isaac, & Mohammed, 2020; DeLone & McLean, 2003). QRIS supports various payment applications offered by banks and other service providers, catering to public use across a wide range of merchants, stores, kiosks, parking facilities, and ticketing outlets displaying the QRIS logo (Gluck, 1996; Indonesia, 2020; Tiwari, 2016).

According to a report from the Indonesian Fintech Association, the digital payment landscape in Indonesia is characterized by three primary areas of financial technology (fintech): payment gateways, electronic money, and the QRIS. These technologies are deemed critical to the primary business model of digital payments in Indonesia, with notable growth observed among providers in recent years (Azzahroo & Estiningrum, 2021; Sausi, Mtebe, & Mbelwa, 2021)

The adoption of QRIS as a QR code-based transactional tool, introduced in early 2020, reflects the ongoing National Movement toward a cashless society, supported by government initiatives and banking institutions (Bisnis et al., 2022; Saputri, 2020). Despite these advancements, challenges such as usability issues with payment gateways and transaction

How to cite:	Muhammad Daffa Satria Meidi Prakosa, Anderes Gui (2024) Analysis of Factors Affecting User Satisfaction with Using the Quick Response Code Indonesian Standard (QRIS) Payment System *(06) 06*, https://doi.org/10.36418/syntax-idea.v3i6.1227
E-ISSN:	2684-883X
Published by:	Ridwan Institute

errors have prompted some users to reconsider the adoption of QRIS as a preferred payment method (Mainardes, Costa, & Nossa, 2023; Weerakkody, Irani, Lee, Hindi, & Osman, 2014).

In summary, the introduction of QRIS represents a significant step in advancing digital payment systems in Indonesia, aligned with broader efforts to promote cashless transactions and consumer protection within the financial technology sector

RESEARCH METHOD

In conducting this study, the authors designed a research framework for analysis based on the questions posed (Noor, 2020). Discussions on this issue are enlightened by relevant concepts and theories that help solve the research question. The research topic is "analysis of factors affecting user satisfaction when using the QRIS (Quick Response Code Indonesia Standard) payment system". To be successful in research, researchers must pay attention to factors that have a significant impact. Knowing these factors can help researchers increase the chances of project success and take preventative measures to prevent unwanted events from happening. In this study, the researchers used a quantitative descriptive study. Quantitative descriptive research describes, investigates, and explains things as they are studied, using numbers to draw conclusions from observable phenomena (Sulistyawati, Wahyudi, & Trinuryono, 2022).The phases of research are:

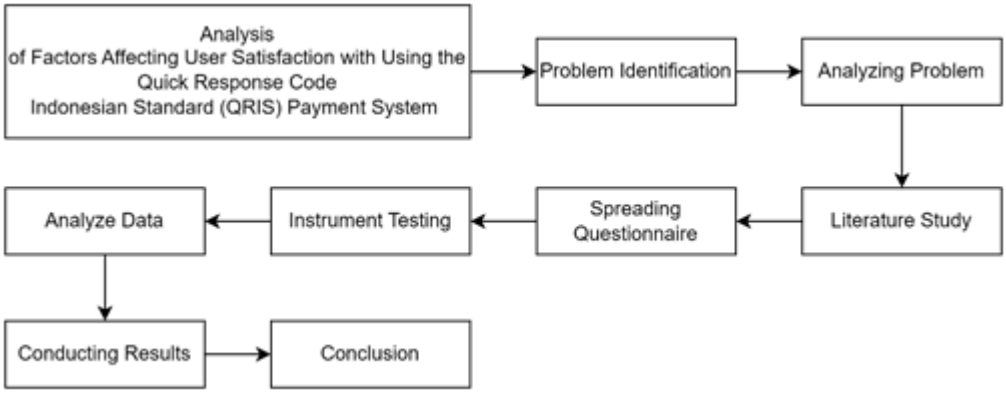

Figure 1 Research Phases

Hypothesis Development

This study is a study aimed at testing:

1. Impact of IS security on perceived benefits. IS security is information or privileges that are kept confidential within QRIS. Perceived usefulness is a variable that represents an individual's level of belief that using a particular system will improve performance. Due to the existence of information security in QRIS, we believe that it may increase or affect confidence in the execution of QRIS transactions.

Hypothesis 1 (H1)

He goal of Hypothesis 1 is to determine whether there is a substantial relationship between IS security and perceived usefulness.

Ho: IS security has no major impact on perceived utility.

H1: IS security significantly affects perceived advantage

Impact of quality of service on perceived usefulness. Service quality is evaluated based on the level of service demanded by QRIS users. Perceived usefulness is a variable that represents an individual's level of belief that using a particular system will improve performance. It is

believed that the superior performance/service delivered by QRIS will increase the confidence and effectiveness of executing QRIS transactions.

Hypothesis 2 (H2)

The goal of Hypothesis 2 is to determine whether there is a substantial relationship between service quality and perceived usefulness.

H0: perceived usefulness is not much influenced by service quality.

H2: Service quality significantly impacts perceived usefulness.

The effect of service quality on perceived ease of use. Service quality is assessed based on the degree of service required by QRIS users. Perceived ease of use is the characteristic that influences how much work a user must exert to operate her QRIS. It is assumed that good performance/realization of performance in QRIS improves confidence that her QRIS transaction may be conducted easily and effectively.

Hypothesis 3 (H3)

The purpose of Hypothesis 3 is whether there is a significant impact between quality of service and usability.

Ho: Quality of service does not significantly affect usability.

H3: Quality of service has a great impact on user experience.

The impact of ``trust in the system'' on perceived ease of use. 'System Trust' evaluates how much users trust the system QRIS uses to operate. Perceived ease of use is the variable that determines how much effort a user has to expend in operating her QRIS. It is assumed that users' trust in QRIS's system increases/enables their trust in executing QRIS transactions.

Hypothesis 4 (H4)

The purpose of Hypothesis 4 is whether there is a significant impact between trust in the system and perceived ease of use.

Ho:Confidence in the system does not significantly affect perceived usability.

H4: Confidence in a system has a large impact on perceived ease of use.

Five. The impact of trust in the system on perceived usefulness. Confidence in the system measures how much users trust the system that QRIS uses during its operation. Perceived usefulness is a variable that represents an individual's level of belief that using a particular system will improve performance. User confidence in QRIS's system increases user satisfaction and improves performance in performing potentially effective QRIS transactions.

Hypothesis 5 (H5)

The purpose of Hypothesis 5 is whether there is a significant impact between trust in the system and perceived usefulness.

Ho: Confidence in the system does not significantly affect perceived usefulness.

Confidence in a system has a large impact on its perceived usefulness.

Impact of 'system trust' on user satisfaction. 'System Trust' evaluates how much users trust the system QRIS uses to operate. User Satisfaction is the variable that determines how satisfied the user is with her QRIS operation. User confidence in QRIS's system is believed to increase user satisfaction/efficiency when executing QRIS trades.

Hypothesis 5 (H5)

The purpose of Hypothesis 5 is whether there is a significant impact between trust in the system and user satisfaction.

Ho:Confidence in the system does not significantly affect user satisfaction.

H6: Confidence in the system has a significant impact on user satisfaction.

Impact of perceived usefulness on user satisfaction. Perceived usefulness is a variable that represents an individual's level of belief that using a particular system will improve performance. User Satisfaction is the variable that determines how satisfied the user is with her QRIS operation. User confidence in improving the performance of QRIS's system is believed to increase user satisfaction and effectiveness when performing QRIS transactions.

Hypothesis 6 (H6)

The purpose of Hypothesis 6 is whether there is a significant impact between perceived usefulness and user satisfaction.

Ho: Perceived benefits do not significantly affect user satisfaction.

H7: Perceived usefulness has a large impact on user satisfaction.

Impact of perceived usability on user satisfaction. Perceived ease of use is the variable that determines the extent to which the user does not have to feel that she is putting in a lot of effort operating her QRIS. User Satisfaction is the variable that determines how satisfied the user is with her QRIS operation. We believe that the user's confidence that he can use QRIS without much effort will increase the user's satisfaction and effect when executing QRIS trades.

Hypothesis 8 (H8)

The purpose of Hypothesis 7 is whether there is a significant impact between perceived usefulness and user satisfaction.

Ho: Perceived usability does not have a significant impact on user satisfaction.

H8: Ease of use greatly affects user satisfaction. It has a big impact on user satisfaction.

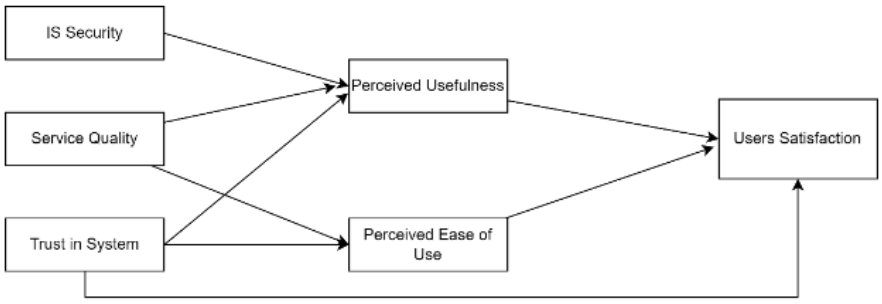

Figure 2 Proposed Research

Analytic Method

Data analysis is a very important stage in research. Correct and precise data analysis can produce correct research conclusions (Creswell, 2016). Therefore, the researcher divides the analysis into 2 parts, namely:

Descriptive Analysis

In this analysis, researchers used the SmartPLS application as a tool for researchers in conducting descriptive analysis (dqlab, 2021).

Hypothesis Test

Hypothesis testing is a process for analyzing the strength of the relationship between variables based on the sample results obtained, and providing the results for making related decisions. According to Sugiyono, the hypothesis is a temporary answer to the formulation of the problem. Because it is still temporary, it needs to be verified through empirical data collected (Sugiyono, 2019). In testing this hypothesis.

RESULT AND DISCUSSION

Reliability Test

Data validation for reliability testing includes Cronbach's alpha analysis and a composite reliability score assessment. If Cronbach's alpha and combined reliability are less than 0.7, the data is considered unreliable (Hadi Ismanto & Pebruary, 2021). Cronbach's alpha and combination reliability test results are presented below.

Cronbach's alpha

A Cronbach alpha test, performed on questionnaire data completed by 400 respondents, showed that all variables had values of 0.70 or greater, and thus could be declared reliable.

Table 1 Cronbach's Alpha Figure

	Cronbach's Alpha	Limit	Result
Information System Security	0.729	≥0.60	Reliable
Perceived Ease of Use	0.713	≥0.60	Reliable
Perceived Usefulness	0.720	≥0.60	Reliable
Service Quality	0.782	≥0.60	Reliable
Trust in System	0.749	≥0.60	Reliable
User Satisfaction	0.673	≥0.60	Reliable

Composite Reilability

Table 2 Composite Reliability Test

	Composite Reliability	Limit	Result
Information System Security	0.847	≥0.60	Reliable
Perceived Ease of Use	0.839	≥0.60	Reliable
Perceived Usefulness	0.843	≥0.60	Reliable
Service Quality	0.859	≥0.60	Reliable
Trust in System	0.856	≥0.60	Reliable
User Satisfaction	0.859	≥0.60	Reliable

All variables were declared reliable because they had a value of 0.60 or higher in a combined reliability test conducted on questionnaire data from 400 respondents.

Hypothetical Analysis

Table 3 Hipothetical Test Result

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Result
Information System Security -> Perceived Usefulness	0.273	0.276	0.063	4.324	0.000	Accepted
Perceived Ease of Use -> User Satisfaction	0.199	0.205	0.064	3.093	0.002	Accepted
Perceived Usefulness -> User Satisfaction	0.323	0.324	0.074	4.355	0.000	Accepted
Service Quality -> Perceived Ease of Use	0.585	0.588	0.059	9.882	0.000	Accepted
Service Quality -> Perceived Usefulness	0.393	0.394	0.062	6.329	0.000	Accepted
Trust in System -> Perceived Ease of Use	0.239	0.235	0.065	3.686	0.000	Accepted
Trust in System -> Perceived Usefulness	0.214	0.209	0.068	3.138	0.002	Accepted
Trust in System -> User Satisfaction	0.321	0.314	0.067	4.807	0.000	Accepted

Hypothetical Results

- H1 indicates a substantial relationship between IS Security variables and perceived usefulness variables.
- H2 indicates a substantial relationship between service quality variables and perceived usefulness variables.
- H3 indicates a substantial relationship between service quality variables and perceived ease of use.
- H4 indicates a substantial relationship between trust in system variables and perceived ease of use.
- H5 indicates a substantial relationship between trust in system variables and perceived usefulness variables.
- H6 indicates a substantial relationship between variable trust in the system and the variable 'user satisfaction.
- H7 indicates a substantial relationship between variable perceived usefulness with respect to user satisfaction

- H8 indicates a substantial relationship between variable perceived usability and the user satisfaction variable.

CONCLUSIONS

Based on research conducted by distributing questionnaires to 400 respondents, the results obtained from the correspondent questionnaire were that the percentage of QRIS users was 43.5% between 17-22 years, 38.7% between 22-30 years, 13.2% over 30 years and 4 .6% over 30 years. So it can be concluded that QRIS users in this study are millennials, they are able to make digital payment transactions using QRIS easily, quickly and safely. This study is adapted and uses the Delone and McClean IS Success model, with a total of 400 respondents. The variables are IS security, perceived usefulness, perceived ease of use, trust in the system, system quality, and user satisfaction. The researcher conducted the analysis with the assistance of the SmartPLS (Partial Least Square) application, which resulted in the following hypotheses The influence of the IS Security variable on Perceived Usefulness achieved a p-value <0.05, which is 0.000 and T-Statistic > 1,966, which is 4,324. As a result, H1 states that there is a substantial relationship between the IS Security variable and the Perceived Usefulness variable. The Service Quality variable had a significant effect on Perceived Usefulness, with a p-value of 0.000 and a T-Statistic of 6,329. As a result, H1 states that there is a substantial relationship between the IS Security variable and the Perceived Usefulness variable. The Service Quality variable had a significant impact on Perceived Ease of Use, with a p-value of <0.05 (0.000) and a T-Statistic of >1,966 (=9,882). As a result, H1 says that there is a substantial relationship between the Service Quality factors and Perceived Ease of Use. The Trust in System variable had a significant impact on Perceived Ease of Use, with a p-value of <0.05 (0.000) and a T-Statistic of >1,966 (3686). As a result, H4 indicates that the variable Trust in System has no significant effect on Perceived Ease of Use. The Trust in System variable had a significant impact on Perceived Usefulness with a p-value of <0.05 (0.000) and a T-Statistic of >1,769 (6.329). As a result, H1 states that it has a considerable influence on both the IS Security and the Perceived Usefulness variables. The Trust in System variable had a significant impact on User Satisfaction, with a p-value of <0.05 (0.000) and a T-Statistic > 1,966 (4.807). Therefore, H1 states that the Trust in System variable has a strong influence on User Satisfaction. Variable. Perceived usefulness had a significant effect on user satisfaction, with a p-value of 0.000 and a T-statistic of 4,355. As a result, H1 states that there is a substantial relationship between the variables Perceived Usefulness and User Satisfaction. The Perceived Ease of Use variable had a significant effect on User Satisfaction, with a p-value of <0.05 (0.002) and a T-Statistic of >1,966, which equals 3,093. As a result, H1 states that there is a substantial relationship between the Perceived Ease of Use variable and the User Satisfaction variable. Based on their findings, the researchers divided their ideas into two parts. Practical recommendations for service providers, as well as theoretical recommendations for future researchers studying the same issue or topic.. One of the main advantages of SPH is its ability to model complex geometries without the need for a fixed mesh, which makes it a suitable method for simulating irregular and heterogeneous structures. The reviewed articles demonstrated the use of SPH for optimizing the shape and size of

rubble-mound breakwaters, armour units, low-crested structures, and artificial reefs. The results showed that SPH can provide valuable insights into the behaviour of these structures under different wave conditions and help to improve their design and performance. In addition, the reviewed articles demonstrated the use of SPH for simulating tsunami run-up and inundation, which can help to assess the vulnerability of coastal communities and develop effective tsunami mitigation measures. SPH has also been used for modelling sediment transport and assessing the impact of coastal protection structures on sediment dynamics.

Despite its advantages, SPH also has some limitations that need to be addressed. One of the main challenges of SPH is the accurate modelling of fluid-structure interactions, which requires a proper treatment of the boundary conditions and the coupling between the fluid and structure domains. In addition, the computational cost of SPH simulations can be high, which limits its applicability for large-scale problems.

Overall, the systematic literature review showed that SPH has a great potential for optimizing coastal protection structures and assessing their performance under different wave conditions. The reviewed articles demonstrated the versatility and accuracy of SPH for simulating various hydrodynamic phenomena and optimizing different types of coastal protection structures. Further research is needed to address the challenges and limitations of SPH and to develop more efficient and accurate numerical models for coastal engineering applications.

BIBLIOGRAFI

Ameen, Ali, Al-Ali, Dawoud, Isaac, Osama, & Mohammed, Fathey. (2020). Examining relationship between service quality, user satisfaction, and performance impact in the context of smart government in UAE. *International Journal of Electrical and Computer Engineering (IJECE)*, *10*(6), 6026–6033.

Azzahroo, Risma Arum, & Estiningrum, Sri Dwi. (2021). Preferensi Mahasiswa dalam Menggunakan Quick Response Code Indonesia Standard (QRIS) sebagai Teknologi Pembayaran. *Jurnal Manajemen Motivasi*, *17*(1), 10.

Bisnis, Jurnal Manajemen, Model, Sebuah, Memahami, Untuk, Dokter, Penerimaan, Teknologi, Atas, Kadek, Baru, Cahyawan, Dwi, Luh,), & Mahyuni, Putu. (2022). *Penerapan Electronic Medical Record di Rumah Sakit*. *19*(1), 140–167.

Creswell, John W. (2016). Research design: pendekatan metode kualitatif. *Kuantitatif Dan Campuran*.

DeLone, William H., & McLean, Ephraim R. (2003). The DeLone and McLean model of information systems success: a ten-year update. *Journal of Management Information Systems*, *19*(4), 9–30.

Gluck, Myke. (1996). Exploring the relationship between user satisfaction and relevance in information systems. *Information Processing & Management*, *32*(1), 89–104.

Hadi Ismanto, S. E., & Pebruary, Silviana. (2021). *Aplikasi SPSS dan Eviews dalam analisis data penelitian*. Deepublish.

Indonesia, Bank. (2020). QR Code Indonesian Standard (QRIS). *Bank Indonesia*, *4*(04).

Mainardes, Emerson Wagner, Costa, Priscilla Maria Ferreira, & Nossa, Silvania Neris. (2023). Customers' satisfaction with fintech services: Evidence from Brazil. *Journal of Financial Services Marketing*, *28*(2), 378–395.

Noor, H. R. Zulki Zulkifli. (2020). *Metodologi penelitian kualitatif dan kuantitatif: petunjuk*

praktis untuk penyusunan skripsi, tesis, dan disertasi: tahun 2015. Deepublish.

Saputri, Oktoviana Banda. (2020). Preferensi konsumen dalam menggunakan quick response code indonesia standard (qris) sebagai alat pembayaran digital. *Kinerja: Jurnal Ekonomi Dan Manajemen*, *17*(2), 237–247.

Sausi, John M., Mtebe, Joel S., & Mbelwa, Jimmy. (2021). Evaluating user satisfaction with the e-payment gateway system in Tanzania. *South African Journal of Information Management*, *23*(1), 1–9.

Sulistyawati, Wiwik, Wahyudi, Wahyudi, & Trinuryono, Sabekti. (2022). Analisis motivasi belajar siswa dengan menggunakan model pembelajaran blended learning saat pandemi covid-19 (deskriptif kuantitatif di SMAN 1 babadan Ponorogo). *KadikmA*, *13*(1), 68–73.

Tiwari, Sumit. (2016). An introduction to QR code technology. *2016 International Conference on Information Technology (ICIT)*, 39–44. IEEE.

Weerakkody, Vishanth, Irani, Zahir, Lee, Habin, Hindi, Nitham, & Osman, Ibrahim. (2014). A review of the factors affecting user satisfaction in electronic government services. *International Journal of Electronic Government Research (IJEGR)*, *10*(4), 21–56.

.