

Original Article

Implementation of Online Payment as a Transaction Solution in the Digital Era: A Comparative Study between QRIS, GOPAY, and SHOPEEPAY

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Abstract - Online payments have become an urgent necessity in the digital age, replacing slow and cumbersome traditional transaction methods. In Indonesia, the emergence of payment platforms such as QRIS, GoPay, and ShopeePay offers a more efficient solution, although there are differences in usage, efficiency, and convenience that influence consumer choice. This study aims to provide a comparative analysis between the three platforms based on the criteria of security, transaction speed, ease of use, cost, and user satisfaction level. The methods used include secondary data collection, in-depth interviews, and participatory observation. Interim results show that QRIS excels in terms of security and lower transaction fees, while GoPay and ShopeePay are preferred for online transactions due to the additional features they offer. The highest level of user satisfaction is achieved by QRIS, followed by GoPay and ShopeePay. This research is expected to make a significant contribution to service providers in improving the quality of their platforms and to consumers in choosing the payment method that best suits their needs.

Keywords - Online payment, QRIS, GoPay, ShopeePay, Security, Transaction speed, Ease of use, Transaction fees, User satisfaction

1. Introduction

In this fast-paced digital era, online payments have become an urgent need for modern society. Traditional transaction methods are increasingly being abandoned due to their impracticality and slow process (Abdillah et al., 2019, Aulia, Suryadi and Safitri, 2023). In Indonesia, the emergence of various online payment platforms such as QRIS, GoPay, and ShopeePay provides a more practical and efficient alternative. However, there are various differences in terms of usage, efficiency, and convenience between the three platforms, which affect consumers' decisions (Mujahidin, 2020) in choosing the most suitable payment method.

This research will use a comparative method to compare three online payment platforms: QRIS, GoPay, and ShopeePay. The comparison will be made based on several main criteria, such as the level of security, transaction speed, ease of use, fees charged, and the level of user satisfaction (Pu et al., 2024).

Several previous studies have discussed the effectiveness of online payments. For example, research by Susilo (2020) examines the impact of e-wallet usage on online shopping behavior in Indonesia. Another study by Lestari (2019) (Mujahidin, 2020) discusses consumer preferences for various digital payment platforms. However, these studies have not specifically conducted a comprehensive comparison between QRIS, GoPay, and ShopeePay.

While previous studies have addressed certain aspects of online payments, none have directly compared QRIS, GoPay, and ShopeePay in one comprehensive study. In addition, these studies have mostly focused on one aspect, such as user satisfaction or consumer preference, without considering other criteria simultaneously.

The purpose of this research is to provide an in-depth comparative analysis between QRIS, GoPay, and ShopeePay so as to provide a clear picture of the advantages and disadvantages of each platform. The results of this study are



expected to guide consumers in choosing the payment platform that best suits their needs and help service providers improve the quality and efficiency of their services.

This research will relate the Diffusion of Innovations theory by (Rogers, Singhal and Quinlan, 2019), which explains how innovation is accepted by society, with a focus on the factors that influence the adoption of new technologies. This theory is relevant in understanding consumer adoption and preference for digital payment platforms. In addition, the Technology Acceptance Model (TAM) theory (Davis, 1989) will also be used to examine the factors that influence user acceptance of online payment technology (Davis, 1989) (Nurhayati, 2024; Wijayanto et al., 2024).

The results of this research are expected to make a significant contribution to the field of digital payment technology studies (Aulia, Suryadi and Safitri, 2023). Practically, this research can assist service providers in identifying areas of improvement and strategies that can increase user adoption. From an academic perspective, this study enriches the literature by providing a comprehensive comparison between the three main platforms in Indonesia, which has not been widely discussed in related studies.

Thus, this research not only provides new insights for consumers and service providers but also makes an important contribution to the development of theory and practice in the field of digital payments in the modern era.

2. Overview

Several previous studies have discussed the effectiveness of online payments. For example, research by Susilo (2020) examines the impact of e-wallet usage on online shopping behavior in Indonesia. Another study by Lestari (2019) and Mujahidin (2020) discusses consumer preferences for various digital payment platforms. However, these studies have not specifically conducted a comprehensive comparison between QRIS, GoPay, and ShopeePay.

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3. Research Methodology

3.1. Research Stages

This research uses a qualitative approach with a comparative method (Vinet and Zhedanov, 2010) to analyse and compare three online payment platforms: QRIS, GoPay, and ShopeePay. The research stages carried out include:

1. Secondary Data Collection:
 - Data collection from relevant literature such as journals, books, and industry reports related to online payments.
 - Similar research that has been done before will be identified and analyzed to get an initial overview of the advantages and disadvantages of each platform (Susilo, 2020; Lestari, 2019).
2. In-depth Interviews:
 - Interviews were conducted with various parties, including users, financial technology experts, and representatives from QRIS, GoPay, and ShopeePay service providers.
 - These interviews aimed to gather information about users' experiences, their perceptions of each platform, and assessments of security, speed, and ease of use.
3. Participatory Observation:
 - The researcher will use the three payment platforms in different situations to directly observe the process and experience of using them.

- This observation will help to understand more deeply the differences in the implementation and operation of the three platforms.
4. Data Analysis:
- Data from interviews and observations will be thematically analysed to identify patterns and key themes that emerge.
 - Comparative analysis is conducted by comparing these findings based on predetermined criteria such as level of security, speed of transactions, ease of use, fees charged, and level of user satisfaction.

3.2. Application of Solution to Research Stages

1. Secondary Data Collection:
 - Utilized academic databases and trusted industry sources to ensure the validity and reliability of the data collected.
2. In-depth Interviews:
 - Developed a structured but flexible list of interview questions to allow for a deeper exploration of issues that arose during the interviews.
3. Participatory Observation:
 - Established different usage scenarios to test each platform under various usage conditions, including small transactions, large transactions, and transactions between individuals.
4. Data Analysis:
 - Based on ratings and reviews on Play Store Android for QRIS Online, GoPay: Transfer, Pay, Save, and ShopeePay - Pay & Transfer.

4. Results and Discussion

4.1. Result

This research involved data collection through in-depth interviews, participatory observation, and secondary data analysis. The research results are described based on the main criteria used in the comparison between QRIS, GoPay, and ShopeePay, namely the level of security, transaction speed, ease of use, fees charged, and the level of user satisfaction.

This study found that security is an aspect that is highly considered by all online payment platforms. This is in line with the findings of Susilo (2020) which shows that security is a key factor in e-wallet adoption. The implementation of encryption technology and two-factor authentication on the three platforms shows their seriousness in protecting user data.

5. Security Level

The results of interviews with users and financial technology experts show that the three platforms have good security mechanisms. QRIS, GoPay, and ShopeePay use data encryption and two-factor authentication to protect user transactions. However, some users reported concerns over potential personal data leakage, especially on platforms that are often used for small transactions.

- QRIS: It scores high in terms of security because government regulations support it and has strict security standards. Users feel comfortable because transactions are integrated with trusted bank systems (Natsir et al., 2023).
- GoPay: It is also considered quite secure, mainly due to two-step verification and additional security features such as PIN and real-time notifications.
- ShopeePay: scored well but slightly below QRIS and GoPay. Despite the security features, some users have complained about phishing attempts targeting their ShopeePay accounts (Hervilia, Singasatia and M. Agus Sunandar, 2022).

6. Transaction Speed

Participatory observation shows that the three platforms have almost the same transaction speed. The time taken to complete a transaction ranges from 3-5 seconds. Users report that QRIS is often faster at processing transactions at physical merchants, while GoPay and ShopeePay are more efficient for online transactions.

- QRIS: Has good transaction speed, but sometimes there are constraints on the network that make the payment process a little slow (Natsir et al., 2023).
- GoPay: Very fast in processing transactions, especially due to its integration with Gojek's extensive ecosystem.
- ShopeePay: It is also fast, but users complain that the speed depends on the peak transaction time on the Shopee platform (Hervilia, Singasatia and M. Agus Sunandar, 2022).

7. Ease of Use

Interviews and observations show that the ease of use of these three platforms is quite high. QRIS is considered very easy to use by new users due to its simple interface. GoPay and ShopeePay offer additional features, such as cashback and promotions, that attract users but require more complex navigation.

- QRIS: Very easy to use as it only requires scanning a uniform QR code for all transactions (Natsir et al., 2023).
- GoPay: Easy to use, especially by users who are already familiar with the Gojek application. Integration with various services makes it very practical.
- ShopeePay: Ease of use is high, especially for users who often shop at Shopee. However, some users feel the interface could be more intuitive (Hervilia, Singasatia and M. Agus Sunandar, 2022).

8. Fees Charged

Data analysis shows that transaction fees vary depending on the type of transaction and merchant. QRIS tends to have lower transaction fees than GoPay and ShopeePay. Some users stated that the fees charged by GoPay and ShopeePay can be prohibitive, especially for small transactions.

- QRIS: Has competitive transaction fees, often lower than other payment methods (Natsir et al., 2023).
- GoPay: Relatively low transaction fees and frequent promotions that benefit users.
- ShopeePay: Fees vary, but there are often discounts and cashbacks that are attractive to users (Hervilia, Singasatia and M. Agus Sunandar, 2022).

9. User Satisfaction Level

The level of user satisfaction was measured through interviews and surveys. The results show that most users are satisfied with the services provided by the three platforms. QRIS gets the highest satisfaction score due to its convenience and low fees, followed by GoPay and ShopeePay, which are appreciated for their additional features and promotions.

- QRIS: Users are very satisfied with the ease and security offered. However, there is room for improvement in terms of transaction speed (Natsir et al., 2023).
- GoPay: Satisfaction levels are very high, mainly due to the speed and ease of integration with various services.
- ShopeePay: User satisfaction is high, but there are complaints about complexity when first using the service (Hervilia, Singasatia and M. Agus Sunandar, 2022).

Table 1. Comparison of research results

Criteria	QRIS	GoPay	ShopeePay
Security Level	High	High	High
Transaction Speed	Very Fast	Fast	Fast
Ease of Use	Very Easy	Easy	Easy
Fees Charged	Low	Medium	Medium
User Satisfaction	Very High	High	High

9.1. Discussion

The results of this study show that the three platforms have their own advantages and disadvantages in the various aspects analysed. In comparing the results of this study with similar studies, there are some interesting findings:

9.1.1. Security Level

This study found that security is an aspect that is highly considered by all online payment platforms (Harseno, 2021). This is in line with Susilo's (2020) findings which show that security is a key factor in e-wallet adoption (Fatah, 2023). The implementation of encryption technology and two-factor authentication on the three platforms shows their seriousness in protecting user data.

9.1.2. Transaction Speed

The almost equal transaction speed between the three platforms shows the efficiency of the technology used.

However, QRIS has a slight advantage in transactions at physical merchants. This supports the Diffusion of Innovations theory, which states that relative advantage can influence technology adoption (Rogers, Singhal and Quinlan, 2019).

9.1.3. Ease of Use

QRIS is rated as very easy to use, especially for new users. This suggests that low complexity and high fit with user needs can increase technology adoption, as described in the TAM theory (Davis, 1989)(Natsir et al., 2023)(Natsir et al., 2023)(Wijayanto et al., 2024).

9.1.4. Fees Charged

Lower transaction fees on QRIS can be a pull factor for cost-sensitive users. GoPay and ShopeePay need to consider fee adjustments to remain competitive in the market.

9.1.5. User Satisfaction Level

High levels of user satisfaction on all platforms indicate that each platform is successfully meeting user needs well. QRIS gets the highest satisfaction score due to its convenience and low cost, indicating that these factors are very important in increasing user satisfaction (Mujahidin, 2020).

9.1.6. Comparison with Similar Research

The results of this study are consistent with the findings of Lestari (2019), which showed consumer preference for digital payment platforms that offer convenience and low fees. However, this study makes an additional contribution by directly comparing the three main platforms in Indonesia, providing a more comprehensive insight into the advantages and disadvantages of each.

This research successfully provides an in-depth comparative overview between QRIS, GoPay, and ShopeePay. The results show that QRIS excels in terms of ease of use and low cost, while GoPay and ShopeePay offer additional features that appeal to users. Service providers can use these findings to improve the quality and efficiency of their services, while consumers can make better decisions in choosing the most suitable payment platform.

This research makes an important contribution to understanding the factors that influence user adoption and satisfaction with digital payment platforms in Indonesia. Service providers can use the results of this study to improve certain aspects of their platforms based on the user feedback that has been collected and analysed.

In addition, this study enriches the academic literature by providing an in-depth comparative analysis between QRIS, GoPay, and ShopeePay, which have not been previously discussed together in related research.

10. Conclusion

This research compares three major online payment platforms in Indonesia: QRIS, GoPay, and ShopeePay. The results show that the three platforms have their own advantages and disadvantages. QRIS excels in terms of security, ease of use, and lower transaction fees. It is ideal for users who are looking for an easy-to-use, secure, and cost-effective platform. GoPay and ShopeePay offer many additional features and are more efficient for online transactions. These platforms are suitable for users who want

a platform with many additional features and attractive promos. Overall, these three online payment platforms provide convenience and security for users in making digital transactions. Choosing the best platform depends on users' individual needs and preferences. This research provides valuable information for service providers and consumers in choosing a digital payment platform that suits their needs. The contribution of this research is to provide an in-depth and objective comparative analysis of the three major online payment platforms in Indonesia.

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