A review on the role of QRIS and digital wallets in facilitating MSME transactions in Indonesia

Wirawan Widjanarko

Bhayangkara University Jakarta Raya, Indonesia wwidjanarko2@gmail.com



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Abstract

Purpose: This literature review aims to develop hypotheses for future researchers conducting research related to the ease of transactions in MSMEs.

Research Methodology: The approach used in this literature review was descriptive and qualitative. The data collection technique uses literature studies or conducts a literature review of relevant previous articles. The data used in this study are secondary data, sourced from academic online media such as Thomson Reuters Journals, Sage, Springer, Taylor & Francis, Scopus Emerald, Elsevier, Sage, Springer, Web of Science, Sinta Journals, DOAJ, EBSCO, Google Scholar, and digital reference books. Empirical data were used to support the phenomena observed in this study.

Results: The results of this study are as follows: 1) QRIS affects the ease of transactions in micro, small, and medium enterprises; and 2) digital wallets affect the ease of transactions in micro, small, and medium enterprises.

Limitations: This study is limited to micro-, small-, and medium-sized enterprises.

Contribution: This study contributes to the understanding of the factors influencing the ease of transactions in MSMEs, with a focus on factors related to the use of QRIS and digital wallets.

Novelty: This study provides new insights into other factors that influence the ease of transactions for MSMEs, especially in Indonesia. Thus, it can be used as a reference material in future studies.

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1. Introduction

As a developing country with strong economic growth, Indonesia has the potential to leverage financial technological innovations to benefit the MSME sector (<u>Widyastuti & Parianom, 2022</u>). Financial technologies widely used in Indonesia include QRIS (a digital payment coding standard) and digital wallets, which enable cashless transactions and have been widely adopted in Indonesia. QRIS allows users to make payments from their devices through digital platforms.

The trend of using QRIS as a payment method can be seen in Figure 1.

Number of QRIS Users in Indonesia in the Q1-Q4 of 2022

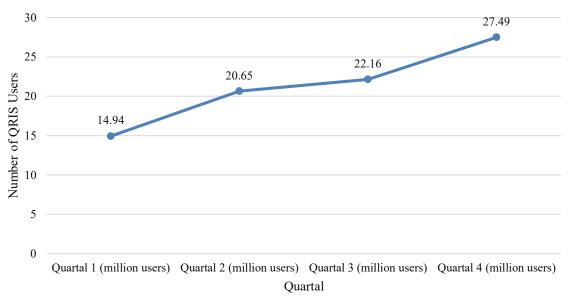


Figure 1. Number of QRIS Users in Indonesia in the Q1-Q4 of 2022 Source: (Ahdiat, 2023)

Figure 1 shows the growth in the number of Quick Response Code Indonesian Standard (QRIS) users in Indonesia from the first quarter to the fourth quarter of 2022. As shown in the graph, the number of QRIS users increases consistently every quarter. In the first quarter, the number of users reached 14.94 million. This number increased significantly in the second quarter, reaching 20.65 million users. Growth continued in the third quarter, with the number of users reaching 22.16 million. In the fourth quarter, there was a sharp increase, with the number of users reaching 27.49 million.

This positive trend reflects the increasing adoption of QR-based digital payment systems in Indonesian society. This growth is driven by increased digital literacy, ease of using QRIS, and the support of Bank Indonesia's policies to promote cashless transactions (Widjanarko, Hadita, Saputra, & Cahyanto, 2023). In addition, SMEs are shifting to digital payment systems to improve transaction efficiency. With this positive trend continuing, QRIS demonstrates significant potential to expand financial inclusion and accelerate Indonesia's digital economic transformation, particularly by connecting micro-, small-, and medium-sized businesses to the digital financial ecosystem (Widjanarko, Hidayat, Prasetyo, & Eprianto, 2022).

Conversely, the use of digital wallets, such as GoPay, OVO, and ShopeePay, has increased significantly. These digital wallets offer several advantages, such as ease of payment, secure transactions, and efficient financial management. According to one study, the use of digital wallets can reduce bank transaction costs and make it easier for MSMEs to make payments more efficiently (Margaretta, Widjanarko, & Manurung, 2022).

Despite the rapid growth in QRIS and digital wallet adoption among Indonesian MSMEs, the current literature remains fragmented and tends to focus on empirical findings without offering a comprehensive synthesis of the conceptual, contextual, and technological factors influencing transaction ease. Most existing studies are limited to case-specific analyses or macro-level statistical reports, leaving a gap in the understanding of how these digital payment tools affect the day-to-day operational efficiency of MSMEs across diverse settings. Furthermore, comparative insights into the respective roles of QRIS and digital wallets in facilitating transactions are rarely addressed in an integrative manner. There is also a lack of studies exploring these technologies through a literature-based framework that can inform hypothesis development for future empirical work. This study addresses these gaps by reviewing and organizing the existing literature to uncover key themes,

challenges, and opportunities related to the use of QRIS and digital wallets in MSMEs, particularly in the Indonesian context. It contributes to a deeper theoretical understanding and lays the foundation for future research on digital payment adoption in developing economies (<u>Kurniawan, Jufri, Hadiwibowo</u>, & Aprianti, 2024).

However, challenges remain in terms of digital literacy and technological infrastructure, particularly in remote areas. Therefore, the government, private sector, and society must collaborate to enhance their understanding of and access to digital payment technologies. As a result, SMEs across Indonesia can leverage the transaction conveniences offered by QRIS and digital wallets to enhance their competitiveness and business growth. Optimizing the use of QRIS and digital wallets is a crucial step in supporting SMEs in Indonesia. The implementation of appropriate payment technologies can enhance operational efficiency, expand market reach, and contribute to the growth of the national digital economy.

1.1. Formulation of the Problem

Based on the background of the problem above, the research questions in this study are as follows: Based on the background of the problem above, the following research questions were obtained: 1) Does QRIS affect the ease of transactions for micro, small, and medium enterprises?2) Does the digital wallet affect the ease of transactions for micro, small, and medium enterprises?

2. Literature review

Based on the background and problem statement above, the literature review and hypotheses in this study are as follows:

2.1. Ease of Transactions

Ease of transaction refers to the availability and accessibility of fast, secure, and efficient payment processes for all parties involved in financial transactions. This includes everything from ease of payment to efficient payment delivery and receipt procedures for sellers and buyers. The ease of transaction also includes factors such as low transaction costs, personal data security, and simplicity of the payment process (Nabila, 2020).

Indicators or dimensions of transaction ease include 1) Speed: Transactions are processed quickly and efficiently, with little time between the start of the transaction and payment fulfillment; 2) Application Availability: Availability of various applications or payment systems where users can easily make transactions; 3) Ease of Use: An intuitive and easy-to-understand user interface, and users are provided with clear instructions when making transactions; 4) transaction costs are simple or clear to users, so they do not impose a significant burden; and 5) security refers to the protection of users' personal data and transactions from fraud or cyberattack (Susanti & Putra, 2023).

The transaction ease variable has been studied by previous researchers and is relevant to the research conducted by <u>Giswandhani and Hilmi (2020)</u>, <u>Heni, Mursito, and Damayanti (2020)</u>, <u>and Lestari (2018)</u>, who reinforced the importance of transaction ease as a predictor of technology adoption in financial services. However, the literature shows inconsistencies regarding the indicators that are emphasized. Some studies focus on processing speed, while others stress security or usability, creating variation in how "ease" is conceptualized. This inconsistency reveals a methodological gap that calls for a more unified measurement framework for transaction ease.

2.2. Quick Response Code Indonesian Standard

The Quick Response Code Indonesian Standard (QRIS) is Indonesia's national standard for digital payments using QR codes. QRIS allows users to make payments by scanning QR codes generated by merchants or service providers using digital smartphone payment apps. QRIS transactions are faster and more efficient, as they do not require cash or physical cards and enable contactless transactions in line with current needs (<u>Aryawati</u>, <u>Mahardika</u>, & <u>Wibawa</u>, 2022).

The indicators or dimensions included in QRIS are: 1) Universal QRIS (Quick Response Code Indonesia Standard) can accept payments from any application that uses QR codes, thereby creating a community that does not require multiple payment applications; 2) Ease of joining the community, simply scanning and clicking on the screen. Sellers can easily scan a single QR code using any QR payment app, eliminating the need to display multiple codes; 3) Benefits: Users: QR payment accounts can be used for any payment. Merchants need only one account to accept QR code payments; and 4) direct payments via QRIS are processed instantly. Users and merchants immediately receive transaction notifications (Palupi, Hartati, & Sofa, 2022).

The QRIS variable has been studied by previous researchers and is relevant to the research conducted by Fadlillah, Nugroho, and Sangka (2021), Agustina (2022), Kamilah, Haryati, Arlita, Noviansyah, and Kustina (2024). They found that QRIS significantly enhances transaction ease, especially among MSMEs. However, variations exist in focus: some explore its contribution to business efficiency, while others emphasize financial literacy, perceived risk, or user trust. These differences suggest that the current QRIS research is fragmented and lacks a holistic framework that combines usability, security, and operational benefit dimensions in one model.

2.3. Digital Wallet

A digital wallet is an app or service that allows you to store money electronically and make different financial transactions using mobile devices, such as smartphones or tablets. Digital wallets enable users to store cash balances, transfer funds to other accounts, pay bills, purchase goods and services, and perform online or offline transactions. The primary benefits of digital wallets include convenience, speed, and security in conducting transactions as well as their ability to provide inclusive financial services to individuals who lack access to traditional banking institutions (Silalahi, Safira, Hubara, & Sari, 2022).

The indicators or dimensions found in digital wallets include: 1) Security features, which include two-factor authentication, data encryption, and PIN or pattern protection when accessing the digital wallet; 2) Payment functions: Digital wallets must be able to store credit or debit card information, allowing users to make payments from various locations; 3) Integration with other services: Many digital wallets work with other services, including e-commerce, bill payments, and peer-to-peer money transfers; 4) Fund Management: This includes the ability to top up digital wallet balances, transfer funds between digital wallets, and track spending; and 5) Loyalty Programs: Some digital wallets have loyalty programs that allow users to earn points or rewards for each transaction (Nabila, 2020).

Digital wallet variables have been studied by previous researchers and are relevant to the research conducted by Nabila (2020) and Silala et al. (2022); Yanti, Isnaeni, and Rafiqi (2022). They support the positive impact of digital wallets on transaction convenience. However, the literature is inconsistent in terms of emphasis. Some studies examine user incentives, such as cashback or loyalty points, while others focus on usability and data protection. Additionally, few studies have examined user behavior across different platforms or demographic groups, signaling a gap in comparative and segmented analysis.

When grouped thematically, the literature presents consistent support for the idea that both QRIS and digital wallets enhance transaction ease. However, key inconsistencies are evident: (1) variation in the definition and operationalization of "transaction ease"; (2) lack of integration between QRIS and digital wallet studies; and (3) minimal exploration of interaction effects between these technologies within the MSME ecosystem.

Moreover, while existing studies often examine QRIS or digital wallets independently, few address their comparative impact or combined usage, which is increasingly relevant given that many digital wallets now support QRIS. The absence of a unified comparative framework presents an important gap in the literature.

Based on these critical gaps, this study proposes the following hypotheses:

H1: The use of a QRIS significantly improves the ease of transactions for MSMEs.

H2: The use of digital wallets significantly improves the ease of transactions for MSMEs.

This study contributes by integrating both technologies into a comprehensive model, allowing for a more complete understanding of how financial digitalization influences transactional behavior in the MSME sector.

2.4. Previous Research

Based on the problem formulation and the literature above, previous studies relevant to this study are as follows:

Tabl	e 1.	Rele	vant	Prev	ious	Research

No	Author (Year)	Research Results	Simmilarities with this article	Differences with this article	Basic Hypothesis
1.	(Kamilah et al., 2024)	QRIS affects the ease of transactions, benefits, and risks for MSMEs.	The Impact of QRIS on the Ease of Transactions for MSMEs	The Impact of QRIS on Benefits and Risks for MSMEs	H1
2.	Fadlillah et al. (2021)	QRIS affects the ease and security of transactions in the behavior of MSMEs assisted by Bank Indonesia KPW Solo	The Impact of QRIS on Transaction Ease for MSMEs	The Impact of QRIS on Transaction Security in MSMEs	H1
3.	Palupi et al. (2022)	The use of QRIS has an impact on financial literacy, ease of use, and ease of transactions.	The Impact of QRIS on Transaction Ease	The Impact of QRIS on Financial Literacy and Ease of Use	H1
4.	Ningsih, Sasmita, and Sari (2021)	The use of QRIS affects perceptions of benefits, ease of transactions, and risk perceptions.	The Impact of QRIS on Transaction Ease	The effect of QRIS on perceived benefits and perceived risks	H1
5.	Nurhaliza, Putri, Atika, and Nofirda (2023)	QRIS and Education Influence the Ease of Transactions in MSME Digital Businesses	The impact of QRIS on transaction convenience	The Influence of Education on the Ease of Transactions in MSME Digital Businesses	H1
6.	<u>Akhyar</u> (2023)	The use of QRIS payments affects perceptions of benefits	The Impact of QRIS on	The effect of QRIS on	H1

		and perceptions of transaction convenience.	Transaction Ease	perceived benefits	
7.	Mujib and Amin (2023)	The use of QRIS services affects ease of use and promotion.	The Impact of QRIS on Ease of Use	The Impact of QRIS on Promotion	Н1
8.	Saputri (2020)	QRIS influences consumer preferences and the ease of consumer transactions as a digital payment method.	The impact of QRIS on the ease of consumer transactions	The influence of QRIS on consumer preferences	H1
9.	Sudyantara and Yuwono (2023)	The use of QRIS has an impact on improving service quality and ease of transactions for MSMEs.	The impact of QRIS on the ease of transactions for MSMEs	The Impact of QRIS on Improving Service Quality for MSMEs	H1
10.	Buluati, Karundeng, and Suyanto (2023)	QRIS has an impact on the ease, security, and trustworthiness of transactions.	The impact of QRIS on transaction convenience	The impact of QRIS on transaction security and trust	H1
11.	Dhea (2022)	The Use of QRIS on BSI Mobile Banking Applications for Transaction Security and Convenience for MSME Actors	The Effect of QRIS Use on Transaction Ease in MSMEs	The Effect of QRIS Use on Transaction Security in MSMEs	H1
12.	Bangsa and Khumaeroh (2023)	The use of Shopeepay QRIS affects users' perceptions of the benefits and convenience of transactions.	The Impact of QRIS on User Convenience in Transactions	The Effect of QRIS on Perceived Benefits	H1
13.	Sholihah and Nurhapsari (2023)	The use of QRIS has an impact on the acceleration of digital payments and ease of transactions for MSMEs.	The Effect of QRIS Use on Transaction Ease in MSMEs	The Impact of QRIS Use on the Acceleration of Digital Payments in MSMEs	H1

14.	Widyayanti and Insiatiningsih (2024)	The use of QRIS payment tools has an impact on the digitization and ease of transactions for MSMEs.	The Effect of QRIS Payment Instruments on the Ease of Transactions for MSMEs	The Impact of QRIS Payment Tools on Digitalization	H1
15.	Warisno, Hendrianto, and Fitmawati (2023)	The use of QRIS on the BSI Mobile app has an impact on the ease and smoothness of transactions for MSMEs in Kepahiang District.	The Effect of QRIS Use on Transaction Ease in MSMEs	The Effect of QRIS Use on Transaction Smoothness in MSMEs	H1
16.	<u>Abrilia</u> (2020)	Digital wallets have an impact on the ease of transactions and service features in Surabaya	The influence of digital wallets on transaction convenience	The influence of digital wallets on service features	H2
17.	Susanti and Putra (2023)	The use of digital wallets affects transaction convenience, service quality, and security risks.	The Impact of Digital Wallets on Transaction Convenience	The Impact of Digital Wallets on Service Quality and Security Risks	H2
18.	Mawardani and Dwijayanti (2021)	The Influence of Shopeepay Digital Wallet on Transaction Convenience and Cashback Promotions	The Impact of Digital Wallets on Transaction Convenience	The Impact of Digital Wallets on Cashback Promotions	H2
19.	Soleha and Hidayah (2022)	ShopeePay digital wallet influences financial literacy and ease of transactions.	The influence of digital wallets on transaction convenience	The influence of digital wallets on financial literacy	H2
20.	Atriani, Permadi, and Rinuastuti (2020)	The OVO digital wallet influences perceptions of benefits and ease of use.	The influence of digital wallets on ease of use	The influence of OVO digital wallet on perceived benefits	H2
21.	<u>Nabila</u> (2020)	Digital Wallets and Sales Promotions Influence Purchasing Decisions and	The Impact of Digital Wallets	The influence of sales promotion	H2

22.	Pamungkas, Tricahyono, and Soetjipto (2024)	Transaction Convenience in Beverage Franchise Businesses Digital wallets affect data security and ease of transactions.	on Transaction Ease The influence of digital wallets on transaction convenience	on purchasing decisions The impact of digital wallets on data security	H2
23.	Priyatna, Pambudi, and Dewi (2022)	OVO digital wallet influences ease of use and customer satisfaction	The influence of digital wallets on ease of use	The influence of digital wallets on customer satisfaction	H2
24.	Rahmawati and Rosa (2024)	The DANA digital wallet influences perceptions of benefits and perceptions of ease of use.	The influence of digital wallets on ease of use	The influence of digital wallets on perceived benefits	H2
25.	Inaya, Ismiarti, and Nofirda (2024)	Digital wallets have an impact on the ease of transactions and accessibility for millennials.	The influence of digital wallets on transaction convenience	The impact of digital wallets on ease of access	H2
26.	Ramadhan and Tamba (2022)	The Gopay digital wallet has influenced perceptions of the benefits and ease of transactions in the DKI Jakarta area.	The influence of the Gopay digital wallet on the ease of transactions	The influence of digital wallets on perceived benefits	H2
27.	Zada and Sopiana (2021)	E-Wallets and Digital Wallets Influence the Ease of Transactions in MSMEs in Central Banjarmasin District	The Influence of Digital Wallets on the Ease of Transactions in MSMEs	The Influence of E-Waller on the Ease of Transactions in MSMEs	H2
28.	Nizar and Yusuf (2022)	The LinkAja Digital Wallet Application Affects Perceptions of Transaction Ease and Trust	The Impact of Digital Wallets on Transaction Convenience	The Influence of Digital Wallets on Transaction Trust	H2
29.	Rohmawati, Kuntadi, and Pramukty (2023)	E-Wallets, Mobile Banking, and E- Money Influence the Ease of Transactions	The Impact of E-Wallets on Transaction Convenience	The Influence of Mobile Banking and E-Money on	H2

		Post-COVID-19 for MSMEs		Transaction Convenience	
30.	Marthalena (2021)	Mobile Payment and Digital Wallets Influence Transaction Convenience	Digital Wallets Influence Ease of Transactions	Mobile Payment affects the Ease of Transactions	H2
31.	Safitri and Diana (2020)	The use of electronic wallets (OVO) affects perceptions of usefulness and ease of transactions.	OVO Digital Wallet has an impact on the ease of transactions	OVO digital wallet influences perceptions of usefulness	H2
32.	Khoiriyah, Zulkarnnaeni , and Halim (2023)	Fintech Dana Application Influences Perception of Benefits, Ease of Transactions, and Transaction Security	The influence of Dana digital wallet on transaction convenience	The Influence of Dana Digital Wallet on Perceptions of Transaction Benefits and Security	H2
33.	Zulfah, Basalamah, and Hatneny (2023)	The use of Gopay affects perceptions of benefits, ease of transactions, and cashback.	The influence of the Gopay digital wallet on the ease of transactions	The Effect of Gopay Digital Wallet on Perceived Benefits and Cashback	H2
34.	Estiningsih, Perdana, Sundari, and Fardiana (2022)	The use of OVO Digital Wallet affects the ease and security of transactions.	The influence of OVO digital wallet on transaction convenience	The impact of OVO digital wallet on transaction security	H2
35.	Agustino and Yousida (2021)	Promotions, Transaction Convenience, and Perceived Benefits Influence the Use of E-Wallets in Banjarmasin City	The Impact of E-Wallets on Transaction Convenience	The Influence of Promotion and Perceived Benefits on E- Wallet Usage	H2

3. Methodology

This study employed a descriptive qualitative approach with a literature review technique as the primary method of data collection and analysis. The literature review method was chosen because it enables researchers to explore concepts comprehensively, particularly regarding transaction ease in MSMEs, with a focus on the role of QRIS and digital wallets. A qualitative descriptive approach allows flexibility in tailoring the analysis to the research context and characteristics of the subject (<u>Darmalaksana, 2020</u>). The data used were secondary in nature and sourced from reputable academic journals and other scholarly publications. Literature was retrieved from various databases, such as Scopus, Web of

Science, Springer, Taylor & Francis, Emerald, Sage, EBSCO, Thomson Reuters Journal, and Indonesian databases, such as SINTA and DOAJ. Additional sources include Google Scholar and Publish/Perish. To ensure relevance and recency, the literature selection was limited to publications from 2018 to 2024 (Susanto, Arini, Yuntina, Soehaditama, & Nuraeni, 2024).

The selection criteria for literature inclusion in this study were as follows: (1) articles must be peer-reviewed and published in indexed academic journals; (2) the study must focus on topics related to QRIS, digital wallets, MSMEs, and transaction ease; (3) the selected literature must present empirical findings or conceptual frameworks addressing user behavior, adoption, or financial technology; and (4) articles written in either English or Bahasa Indonesia were considered. Sources were retrieved from reputable databases such as Scopus, Web of Science, Springer, Taylor & Francis, Emerald, SAGE, EBSCO, SINTA, and DOAJ, as well as search platforms such as Google Scholar and Publish or Perish, covering the publication range from 2018 to 2024 (Silitonga, Widodo, & Ali, 2017).

This study applied thematic analysis as the synthesis method. The relevant literature was coded and categorized into three main conceptual themes: ease of transactions, QRIS implementation, and digital wallet usage. Each theme was analyzed to identify recurring patterns, similarities, differences, and research gaps. This structured comparison enabled a critical evaluation of existing studies and helped formulate hypotheses that reflected the current state and limitations of the literature. The goal is to build a comprehensive and research-informed understanding of how QRIS and digital wallets influence transaction ease within the MSME sector and to highlight areas that warrant further investigation.

4. Results and discussions

Based on the problem formulation, literature review, and relevant research, the results and discussion of this study are as follows.

4.1. The Impact of QRIS on the Ease of Transactions for MSMEs

Based on a literature review and relevant previous studies, QRIS has an impact on the ease of transactions for MSMEs.

To improve the ease of transactions for MSMEs through the use of QRIS, the following steps should be taken by MSME actors: 1) Universal QRIS: SMEs must ensure that the QRIS they use can accept payments from various e-wallet and mobile banking applications (such as OVO, DANA, GoPay, ShopeePay, BCA Mobile, and others); 2) Ease of joining: SMEs should take advantage of the ease of the QRIS registration process, which can now be done online and quickly through Payment System Service Providers (PJSP); 3) Benefits: SMEs can also build a digital transaction history, which is crucial for accessing digital financing or loans in the future; and 4) Instant Payments: QRIS enables real-time payment processing. Payments are directly received in the merchant's account without the need for manual confirmation.

If MSMEs can implement a universal QRIS, the ease of joining, benefits, and instant payments will have an impact on the ease of transactions, including: 1) Speed: Transactions with QRIS take place in seconds, without the need to prepare cash or change. This is very useful for small and large transactions, especially during busy times; 2) Application availability: QRIS can be scanned by various digital wallets and mobile banking apps, so it does not limit consumers to just one service provider; 3) Ease of use: By simply scanning a QR code with a smartphone, customers can make payments very easily. The app's simple interface and quick payment steps make this technology user-friendly, even for customers who are new to digital payments; 4) transaction costs: QRIS offers very low transaction fees, at 0.3% for SMEs, significantly cheaper than other non-cash payment methods; and 5) data security: Every QRIS transaction is regulated by the security system of Bank Indonesia and registered Payment Service Providers (PJSP). Transaction data are stored digitally, protected, and traceable in case of issues.

The results of this study are in line with those of previous studies conducted by <u>Buluati et al.</u>, <u>Mujib and Amin (2023)</u>, <u>and Ningsih et al.state</u>), which state that there is an influence between the use of QRIS and the ease of transactions.

4.2. The Impact of Digital Wallets on the Ease of Transactions for MSMEs

Based on the literature review and relevant research, it can be stated that digital wallets have an impact on the ease of transactions for MSMEs.

To improve the ease of transactions for MSMEs through Digital Wallets, the following steps should be taken by MSME actors: 1) Security features: MSME actors should choose a digital wallet that offers advanced security features, such as two-factor authentication (2FA), data encryption, and transaction tracking features. Transaction security is very important to protect customer data and business funds from misuse or leakage; 2) Payment functions: Digital wallets must have comprehensive payment capabilities, including QRIS payments, interbank transfers, mobile top-ups or token purchases, and bill payments; 3) Service integration: Integrating digital wallets with sales systems or other applications such as POS (Point of Sale), e-commerce, or marketplaces will simplify transaction management for businesses; 4) Fund management: A good digital wallet also provides fund management features such as recording income and expenses, sales reports, or daily cash flow management; and 5) Loyalty programs: E-wallets equipped with loyalty programs such as cashback, points, discounts, or vouchers will attract customers to continue using the service.

If MSME players can implement security features, payment functions, service integration, fund management, and loyalty programs, it will have an impact on the ease of transactions, including: 1) Speed: With digital wallets, payments can be made in seconds without the need to count cash or wait for change; and 2) application availability: digital wallets are available on various smartphone platforms and support multiple operating systems. This makes it easy for users and SMEs in various urban and rural regions to access them. 3) Ease of use: E-wallet apps typically have simple and intuitive interfaces. This allows users from various backgrounds, including SMEs, who are not very familiar with technology, to use them easily. 4) Transaction costs: Digital wallets offer low transaction fees and even zero fees for certain types of transactions. This is advantageous for SMEs, as it helps reduce operational costs and increase profit margins. 5) Data security: Transactions made through digital wallets are equipped with high-security protocols and data protection systems. This security provides peace of mind for both businesses and customers while minimizing the risk of fraud and scams.

The results of this study are in line with those of previous studies conducted by Nabila(2020) and Silalahi et al. (2022); Yanti et al. (2022), which states that there is an influence between the implementation of digital wallets and the ease of transactions.

4.3. Comparative Analysis Between QRIS and Digital Wallets

While both QRIS and digital wallets promote transaction ease, their practical impacts differ across contexts. The QRIS is more standardized and regulated by Bank Indonesia, making it widely accepted and uniform across all sectors. However, its functionality is limited to payment reception. By contrast, digital wallets vary in features; some (e.g., OVO, GoPay) focus on rewards and retail integration, while others (e.g., DANA, LinkAja) emphasize bill payments, fund transfers, or social impact. Additionally, in rural or remote regions, QRIS adoption can be limited by infrastructure constraints, whereas digital wallets may offer offline access or integration with informal economies. These differences suggest that while QRIS excels in unifying payment methods, digital wallets offer more versatility and business-oriented tools.

4.4. Nuanced and Contradictory Findings

Despite the overall positive trends, some studies have shown nuanced or contradictory findings. For instance, while QRIS is touted for low transaction fees, several MSMEs reported barriers in registration due to a lack of digital literacy or limited assistance from PJSPs. Similarly, although digital wallets promise security, some users are concerned about data breaches, particularly when linked to third-party

applications. Additionally, user experience and ease of use vary between platforms; GoPay and ShopeePay are often perceived as more intuitive than LinkAja or Dana, especially by younger users. These inconsistencies highlight the importance of contextual factors, such as user demographics, regional infrastructure, and platform design, in determining actual transaction ease. Further empirical research is needed to explore these disparities in depth.

4.5. Conceptual Framework

Based on the problem formulation, results, and discussion, the conceptual framework was determined as follows:

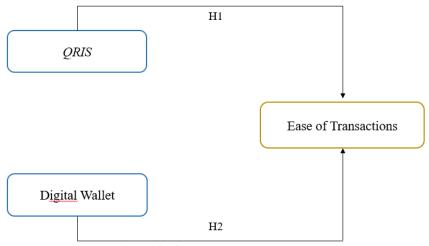


Figure 2. Conceptual Framework

Based on Figure 2, QRIS and Digital Wallets influence the Ease of Transactions in MSMEs. However, in addition to QRIS and Digital Wallets, there are other variables that influence the Ease of Transactions in MSMEs, including

- 1) Payment Tools (<u>Kamilah et al., 2024</u>; <u>Nabila, 2020</u>; <u>Silalahi et al., 2022</u>; <u>Widyastuti, Muhajirin, & Sinlae, 2023</u>).
- 2) Internet Access and Information Technology (<u>Mahastanti & Utoyo, 2022; Purnomo & Ramadhani, 2022; Wardani & Darmawan, 2020; Widyastuti et al., 2023</u>).

5. Conclusion

5.1. Conclusion

Based on the problem formulation, results, and discussion, this study concludes that (1) the use of QRIS has a positive influence on the ease of transactions for MSMEs, particularly in terms of transaction speed, accessibility, and security; and (2) digital wallets also significantly contribute to transactional convenience through features such as user-friendly interfaces, integrated services, low-cost, and secure payment processing. These findings highlight the transformative role of financial technology in supporting MSMEs' transition to digital ecosystems, and suggest that the wider adoption of both QRIS and digital wallets can enhance business efficiency, customer experience, and financial inclusion.

However, this study has several limitations. As it relies on a literature review, the findings are constrained by the scope and context of previously published works without direct empirical validation. The generalizability of the insights may vary across regions, user demographics, or digital platform characteristics. Future research should adopt empirical approaches, such as case studies, surveys, or experimental designs, to measure the actual impact of QRIS and digital wallets on MSME performance. Longitudinal studies may also provide a deeper understanding of adoption patterns over time, especially considering the rapid evolution of fintech and user behavior in Indonesia and other emerging markets.

5.2. Suggestion

Based on the results of this study, it is recommended that MSME players pay attention to factors that influence the ease of transaction, such as the use of QRIS and digital wallets.

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