

The Impact of the Implementation of the Quick Response Indonesian Standard (QRIS) on Encouraging the Economic Growth of Micro, Small, and Medium Enterprises (MSMEs) in Jayapura Regency

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ARTICLE INFORMATION

ABSTRACT

Publication information

Research article

HOW TO CITE

Soumokil, M. S., Arfusau, W. A. I., Titalessy, P. B., Setiarini, N., Tokoro, M. S., & Ibo, L. (2025). The impact of the implementation of the Quick Response Indonesian Standard (QRIS) on encouraging the economic growth of micro, small, and medium enterprises (MSMEs) in Jayapura Regency. *Journal of International Conference Proceedings*, 8(2), 241–260.

DOI:

<https://doi.org/10.32535/jicp.v8i2.4439>

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Published by JICP



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Received: 28 July 2025

Accepted: 29 August 2025

Published: 30 September 2025

The results of this study indicate that the use of the QRIS payment system has a positive and significant effect on the economic development of MSMEs in Jayapura Regency. This can be interpreted to mean that the use of the QRIS payment system has a positive impact on increasing the income of MSMEs in Jayapura Regency (t-count value of 5.782 > t-table value of 1.701, and a significance value for the QRIS payment system variable (X) of 0.000 < 0.05). Furthermore, based on statements from MSME respondents in Jayapura Regency who use QRIS, several constraints were identified, namely: some users still do not fully understand how to use QRIS, network connectivity issues, delays in real-time/instant fund disbursement, the existence of QRIS usage fees charged to merchants, and the absence of transaction fee discounts or promotions as offered by payment applications such as OVO, GoPay, and others. However, these constraints are perceived as not having a significant overall impact on their business income. This is evidenced by the fact that out of 30 respondents, only 19 respondents stated that these constraints did not significantly affect their business income.

Keywords: Quick Response Indonesian Standard (QRIS), MSMEs, digitalization, financial inclusion, Jayapura Regency

INTRODUCTION

The rapid advancement of digital technology has significantly transformed payment systems, particularly through the adoption of cashless and QR-based transactions. In Indonesia, the Quick Response Code Indonesian Standard (QRIS) was introduced by Bank Indonesia as a unified, server-based payment system to standardize non-cash transactions and enhance efficiency for both consumers and merchants, especially micro, small, and medium enterprises (MSMEs). The implementation of QRIS gained greater relevance during the COVID-19 pandemic, when physical distancing policies accelerated the need for digital payment solutions and pushed MSMEs to adapt to the digital economy in order to survive and recover from economic disruption.

Despite the rapid expansion of QRIS usage nationwide, empirical evidence regarding its actual impact on MSME development at the regional level—particularly in eastern Indonesia such as Jayapura Regency—remains limited. Previous studies have largely focused on QRIS adoption in urban or national contexts, leaving a research gap in understanding how QRIS affects local MSMEs in terms of business growth, operational efficiency, and participation in the digital economy, as well as the obstacles they face in its implementation. This gap is particularly important given the strategic role of MSMEs as key drivers of regional economic growth and contributors to local revenue in Jayapura Regency.

This study is motivated by the need to evaluate whether QRIS truly functions as an effective tool for promoting digital economic development among MSMEs in Jayapura Regency. The novelty of this research lies in its regional focus on Papua, an area that remains underrepresented in digital finance research, as well as its integrated analysis of both the benefits and constraints of QRIS adoption from the perspective of MSME actors. By examining QRIS not only as a technological innovation but also as a policy instrument supporting MSME empowerment, this study offers a more contextual and inclusive understanding of digital payment adoption.

The significance of this research lies in its potential to inform policymakers, financial authorities, and local governments about the effectiveness of QRIS implementation at the grassroots level. The findings are expected to contribute to the improvement of digital payment policies, strengthen financial inclusion strategies, and support sustainable MSME development in regional economies. Academically, this study contributes to the literature on digital finance, MSME development, and payment system innovation in developing regions.

Accordingly, the objectives of this study are: (1) to analyze the impact of QRIS usage on the development of MSMEs in Jayapura Regency; (2) to identify the obstacles faced by MSMEs in implementing QRIS and assess their influence on business growth; and (3) to examine the benefits of QRIS adoption in supporting MSME business development and the advancement of the digital economy in Jayapura Regency.

LITERATURE REVIEW

Banking Theory

Banking is a financial system that functions as a financial intermediary, collecting funds from parties with surplus capital and channeling them to those requiring financial resources. Banking theory examines the structure, functions, and behavioral patterns of banking institutions in society.

The Word-Origin Theory of Banking explains that the term bank derives from the Latin word *banco*, which means bench or table. Historically, banks served as institutions that facilitated payment activities for the purchase of goods and services. The Islamic Banking Theory describes Islamic banks as financial institutions whose primary activities involve providing financing and payment-related services based on Islamic sharia principles. These institutions do not rely on interest but operate according to rules derived from the Qur'an and the Hadith of Prophet Muhammad (peace be upon him). In contrast, the Conventional Banking Theory views conventional banking as a financial system operating under capitalist principles, prioritizing profit maximization and permitting interest-based transactions within non-sharia financial frameworks. The Comparative Theory of Islamic and Conventional Banking highlights key differences between the two systems, noting that Islamic banking follows sharia principles and prohibits interest, while conventional banking is grounded in capitalism and allows interest-based activities. In addition, the Islamic Financing Theory emphasizes that financial activities under sharia operate through profit-sharing mechanisms based on project outcomes, ensuring that financial returns remain religiously legitimate.

Micro, Small, and Medium Enterprises (MSMEs)

MSMEs are small-scale business entities initiated independently based on individual entrepreneurial efforts. Although often perceived as benefiting only certain groups, MSMEs play a crucial role in reducing unemployment in Indonesia by absorbing a significant share of the labor force (Handini & Sukesi, 2019). Their contributions extend to broadening employment opportunities, facilitating access to economic services, promoting income distribution, enhancing community welfare, supporting economic growth, and maintaining national economic stability (Hastuti et al., 2020).

According to Law No. 9 of 1999, amended by Law No. 20 of 2008, MSMEs are defined as productive business activities owned by individuals or entities that meet legally established criteria. Small enterprises refer to independently managed productive economic activities conducted by individuals or business entities that are not subsidiaries or branches of medium or large enterprises. Medium enterprises are defined as independently managed productive economic activities that do not form subsidiaries or branches of smaller or larger enterprises and meet specific asset or revenue requirements set by regulation. Large enterprises include productive economic activities conducted by companies with asset or revenue levels exceeding those of medium enterprises, including state-owned, private, joint-venture, and foreign entities operating in Indonesia.

Further elaboration of MSME criteria in Law No. 20 of 2008 classifies micro enterprises based on asset and revenue thresholds up to the legally specified limits. Small enterprises fall within ranges set above micro-level financial thresholds but below medium-level criteria. Meanwhile, medium enterprises are defined as businesses whose net assets or annual revenue surpass those of small enterprises but remain within the designated upper bounds of medium-scale operations.

QR Code and QRIS System

QRIS Overview

The Quick Response Code Indonesian Standard (QRIS) was launched by Bank Indonesia adopting the concept of UNGGUL, an acronym representing universality, ease, benefits, and instant processing. Governor Perry Warjiyo emphasized that QRIS integrates all QR-based payment methods into a unified system. QRIS allows consumers to complete transactions simply by scanning a single QR code, and merchants no longer need to display multiple different QR codes for various payment applications. This

system is designed to provide a universal, convenient, beneficial, and instantaneous payment experience for all stakeholders.

Figure 1. Quick Response Code Indonesian Standard (QRIS)



QRIS Transaction Methods

Transactions using QRIS require a smartphone equipped with a QR scanner, a stable internet connection, an available payment application, and sufficient balance. Prior to the implementation of QRIS, merchants were required to display several QR codes from different payment providers, making it necessary for consumers to confirm compatibility between their payment application and the merchant's system. After QRIS implementation, a single universal QR code is sufficient for all transaction applications, thus simplifying the payment process for both customers and merchants.

QRIS Mechanisms

QRIS supports two primary transaction mechanisms: Merchant Presented Mode (MPM) and Customer Presented Mode (CPM). In MPM, customers scan the QR code displayed by the merchant. Static MPM involves merchants displaying a pre-printed QR code, typically used by micro and small enterprises. Dynamic MPM involves QR codes generated in real time through electronic devices, suitable for medium and large enterprises. In CPM, customers display their QR code from their payment application to be scanned by the merchant, a mechanism often used in settings requiring rapid transactions, such as transportation, parking, and modern retail.

Benefits of QRIS

QRIS provides multiple advantages. For consumers, it enables fast, modern, cashless, and secure transactions, with compatibility across all QR-based payment systems under Bank Indonesia's supervision. For merchants, QRIS helps increase potential sales, enhances business branding, reduces cash handling risks, eliminates the possibility of counterfeit money, ensures automatic digital transaction records, and improves financial management and reconciliation processes. Additionally, transaction histories contribute to developing merchant credit profiles that may facilitate access to future financing.

QRIS is regulated under PADG No. 21/18/2019 concerning the Implementation of International QR Standards for Payments. Developed collaboratively by Bank Indonesia and the Indonesian Payment System Association, QRIS adopts EMVCo international standards to improve interconnection and interoperability among financial service providers globally.

Impact Theory

The Great Dictionary of the Indonesian Language (KBBI) defines impact as a strong influence that produces consequences, either positive or negative. Impact affects an individual's perceptions and responses toward objects or phenomena. A positive impact

generates beneficial outcomes, whereas a negative impact creates harm or disadvantage to individuals, living beings, or the environment.

Income Theory

Income, according to KBBI, refers to earnings obtained from work or business activities. In the field of management, income refers to monetary compensation received by individuals, companies, or organizations, including wages, salaries, rent, interest, commissions, fees, and profits. Boediono (2002) explains that income comprises total revenue from sales, revenue per unit sold, and additional revenue generated from selling an extra unit. Income serves as a vital indicator of business performance and sustainability. Efforts to increase income require creativity, innovation, and effective marketing strategies to attract and retain customers in increasingly competitive markets.

Constraints

Constraints, according to KBBI, are obstacles or limitations that hinder the achievement of goals. Soewarno et al. (2016) describe them as conditions in which various barriers disrupt the accomplishment of objectives. In this study, constraints relate specifically to challenges in the adoption and implementation of QRIS among MSMEs. These include internal limitations such as inadequate understanding of digital payment systems and external barriers such as unstable internet connectivity, transaction fees, and daily transaction limits that may inhibit effective usage.

Hypotheses

A hypothesis is a temporary answer or assumption to a research problem that requires empirical testing. It is considered tentative because it is based on relevant theory rather than empirical data.

The hypotheses used in this study are simultaneous hypotheses, as follows:

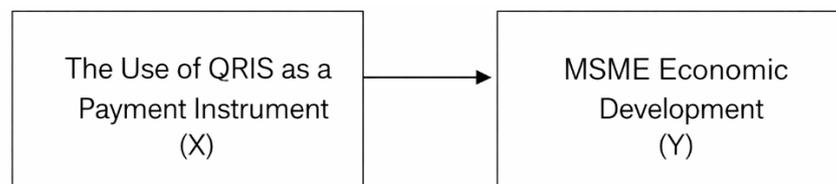
H_a: The use of QRIS has an impact on digital economic development in Jayapura Regency.

H₀: The use of QRIS has no impact on digital economic development in Jayapura Regency.

Conceptual Framework

Based on the theoretical foundation and previous studies on the impact of QRIS usage on MSMEs in Jayapura Regency in promoting digital economic development, a conceptual framework is formulated as follows:

Figure 2. Research Framework



RESEARCH METHOD

Population and Sample

Population

Population refers to all objects or subjects in a study that share similar characteristics (Suharsimi Arikunto, 2006). In this research, the population consists of 5,893 MSMEs registered at the Office of Industry, Trade, and Cooperatives (Disperindakop) of Jayapura Regency.

Sample

A sample is a subset of the population that possesses specific characteristics relevant to the study (Sugiyono, 2018). Using a 10% margin of error and the Lemeshow formula, the researcher determined a sample size of 96 MSMEs. The sampling technique used was purposive sampling, selecting MSMEs located in Jayapura Regency, randomly chosen within the area, operating for one to four years, and willing to participate in interviews or complete the questionnaire.

Types and Sources of Data

This study used quantitative data, supported by qualitative information. Quantitative data were obtained from structured questionnaires producing numerical responses for statistical analysis. Qualitative data, such as verbal descriptions, were collected through interviews, observation, documentation, and unstructured interviews to strengthen the quantitative findings.

Data Collection Techniques

Data collection is a crucial stage in research (Sugiyono, 2021). This study used field studies and literature reviews.

Field Study

The field study consisted of questionnaires and observations. Questionnaires containing structured written questions were distributed to MSME owners in Jayapura Regency. A Likert scale was used to measure variables, with scores ranging from Strongly Agree (5) to Strongly Disagree (1). Observations were also conducted directly in the field to understand actual MSME conditions and QRIS usage practices.

Literature Review

The literature review involved examining books, journals, reports, theses, and other academic documents related to MSMEs, QRIS, digital payments, and regional economic development. These sources provided theoretical support and contextual understanding for the study.

RESULTS

Brief History of the Launch of QRIS by Bank Indonesia

The use of QR code-based payment systems is a non-cash payment method that has become very popular today. As a result, many QR codes have emerged from various Payment System Service Providers (PSSPs) in Indonesia, one of which is QRIS, an acronym for Quick Response Code Indonesian Standard. QRIS is a unified standard that integrates various QR codes from different PSSPs. With the implementation of QRIS, non-cash transactions have become safer, faster, and more convenient. The public recognizes QRIS as one of the easiest and most efficient payment methods available today.

Before Bank Indonesia launched QRIS as a standardized QR code payment system in Indonesia, each PSSP had its own distinct QR code. As a result, one QR code could only be read or scanned by a single application or payment service provider. For example, customers who used the GoPay payment application could only conduct non-cash transactions if the merchant provided a GoPay payment system. Conversely, if the QR codes used by customers and merchants were issued by different PSSPs, transactions could not be completed. This situation was considered impractical by many people, especially MSMEs that had already implemented non-cash payment systems in their businesses.

This study was conducted from May to June 2024. During the questionnaire distribution process, business owners were sometimes not present at their business locations; therefore, the researcher interviewed employees to complete the questionnaires. Some respondents were reluctant to fill out the questionnaires but were willing to be interviewed or have the questionnaire read aloud to them, in which case the researcher completed the questionnaire based on the interview responses.

General Description of Respondents

In this study, the researcher selected MSME actors in Jayapura Regency who use QRIS as the research objects. This selection aligns with the research title, “The Impact of QRIS Usage in Increasing MSME Income in Jayapura Regency.” The total number of samples/respondents used in this study was 96. These respondents were required to meet the following criteria:

1. The sample/respondents had used QRIS as a non-cash payment system.
2. The sample/respondents were MSMEs located in Jayapura Regency.
3. The sample/respondents had used the QRIS payment system in their business operations for at least three months.
4. The sample/respondents were willing to be interviewed and/or to complete the provided questionnaire.

Based on these criteria, the valid and eligible data collected amounted to 30 MSMEs/respondents. In collecting the data, the researcher used questionnaires that were designed according to the statements contained in the research indicators. The distribution of questionnaires was conducted using two methods:

1. Online, by sending a questionnaire link via Google Forms to MSMEs that use QRIS.
2. Offline, by meeting directly with MSMEs that use QRIS.

Respondent Characteristics

Respondent Characteristics Based on Length of Business Operation

Table 1. Length of Business Operation

Length of Business Opertaion	Amount	Percentage
1 year	5	16,7%
2 year	12	40,0%
3 year	7	23,3%
4 year	6	20,0%
Total	30	100%

Source: SPSS 25.0 Results of Data Processing (2024)

Based on the data above regarding the length of business operation, it can be concluded that most respondents in this study have been operating their businesses for 2–4 years. This is indicated by 5 respondents (16.7%) whose businesses have been operating for 1 year, 12 respondents (40.0%) whose businesses have been operating for 2 years, 7 respondents (23.3%) whose businesses have been operating for 3 years, and 6 respondents (20.0%) whose businesses have been operating for 4 years. This finding indicates that the majority of MSMEs using the QRIS payment system in Jayapura Regency have been in operation for 2–4 years.

Respondent Characteristics Based on Type of Business

Table 2. Type of Respondents' Business

Type of Business	Frequent	Percentage
Culinary sector	25	83,3%
Trade Sector	4	13,3%
Service Sector	1	3,3%
Total	30	100%

Source: SPSS 25.0 Results of Data Processing (2024)

Based on the data on types of business, it can be concluded that the majority of respondents are engaged in the culinary sector. Out of 30 respondents, 25 MSMEs (83.3%) operate in culinary businesses, making it the dominant business type among QRIS users in Jayapura Regency. This is followed by the trade sector, with 4 respondents (13.3%), while the service sector accounts for the smallest proportion, with only 1 respondent (3.3%). Overall, these results indicate that QRIS usage is predominantly adopted by MSMEs in the culinary sector.

Respondent Characteristics Based on Annual Gross Business Income

Table 3. Annual Gross Business Income

	Amount	Percentage
≤ Rp. 300 Million	25	83.3%
Rp. 300 Million - 2,5 Billion	5	16.7%
Total	30	100%

Source: SPSS 25.0 Results of Data Processing (2024)

Based on the data above, it is known that 69 respondents (81.2%) have an annual gross business income of ≤ IDR 300 million. Furthermore, 5 respondents (16.7%) have an annual gross business income ranging from IDR 300 million to IDR 2.5 billion. This indicates that the majority of businesses in Jayapura Regency fall into the micro-enterprise category.

Respondent Characteristics Based on QRIS Usage After 3 Months

Based on the data below, it is known that most UMKMs in Jayapura Regency earned income in the range of IDR 2,000,000–IDR 3,000,000 during the three months of using QRIS. This is reflected in the data showing 15 respondents, or 50.0% of the total. This indicates that the use of the QRIS payment system in their businesses has largely helped maximize improvements in business income.

Table 4. QRIS Usage After 3 Months

Amount	Frequent	Percentage
< Rp. 1.000.000	9	30,0%
Rp. 1.000.000 – Rp. 2.000.000	2	6.7%
Rp. 2.000-000 – Rp. 3.000.000	15	50,0%
> Rp. 4.000.000	4	13,3%
Total	30	100%

Source: SPSS 25.0 Results of Data Processing (2024)

Data Analysis

Based on the data obtained from distributing questionnaires to UMKMs in Jayapura Regency that use the QRIS payment system, the frequencies of respondents' answers were obtained as follows:

Description of the Results of Percentage Analysis of Respondents' Answers on the Variable of QRIS Payment System Usage (X)

Table 5. Questionnaire Scores for the QRIS Payment System Usage Variable (X)

No	STS		TS		CS		S		SS		Amount	
	F	%	F	%	F	%	F	%	F	%	F	%
1	-	-	1	3,3%	0	-	17	56,7%	12	40,0%	30	100%
2	1	3,3%	2	6,7%	-	-	11	37,6%	16	53,3%	30	100%
3	-	-	2	6,7%	1	3,3%	12	40,0%	15	50,0%	30	100%
4	-	-	2	6,7%	-	-	13	43,3%	15	50,0%	30	100%
5	-	-	2	6,7%	1	3,3%	13	43,3%	14	46,7%	30	100%
6	-	-	2	6,7%	1	3,3%	6	20,0%	21	70,0%	30	100%
7	-	-	1	3,3%	1	3,33%	9	30,0%	19	63,3%	30	100%
8	-	-	1	3,3%	1	3,33%	8	26,7%	20	66,7%	30	100%
9	1	3,3%	2	6,7	5	16,7	6	20,0%	16	53,3%	30	100%
10	-	-	2	6,7	7	23,3	11	36,7%	10	33,3%	30	100%
11	-	-	-	-	2	6,7%	15	50,0%	13	43,3%	30	100%
12	1	3,3%	-	-	-	-	10	33,3%	19	63,3%	30	100%
13	-	-	-	-	1	33,3%	8	26,7%	21	70,0%	30	100%
14	1	3,3%	1	3,3%	2	6,7%	13	43,3%	13	43,3%	30	100%
15	-	-	-	-	2	6,7%	12	40,0%	16	53,3%	30	100%

Source: SPSS 25.0 Results of Data Processing (2024)

Based on the results presented in Table 5, several key findings describe MSMEs' perceptions of QRIS usage in Jayapura Regency. For the first statement, "Using the QRIS payment system is easy for me to do," most respondents agreed (56.7%) and strongly agreed (40.0%), indicating that MSMEs generally perceive QRIS as easy to use. Similarly, for the second statement, "QRIS is easy for me to learn," the majority of respondents agreed (36.7%) and strongly agreed (53.3%), showing that MSMEs consider QRIS simple to learn. The third statement, "Using QRIS makes it easier for me to accept any type of QR Code transaction," also received positive responses, with 40.0% agreeing and 50.0% strongly agreeing.

Regarding business management, the fourth statement showed that 43.3% agreed and 50.0% strongly agreed that QRIS makes it easier to record business finances. Likewise, for the statement "I understand how to use QRIS," most respondents agreed (43.3%) and strongly agreed (46.7%). A similar pattern appears in the statement "I understand the SOP for using QRIS," where 70.0% strongly agreed and 20.0% agreed, indicating that most MSMEs understand the operational procedures of QRIS. In addition, the majority of respondents agreed (30.0%) and strongly agreed (63.3%) that they are able to conduct QRIS transactions independently without assistance.

Positive perceptions were also found regarding satisfaction and usefulness. For the statement "I am satisfied using QRIS as a non-cash payment system in my business," most respondents strongly agreed (66.7%), while 26.7% agreed. Similarly, 53.3% strongly agreed and 20.0% agreed that QRIS helps them in conducting business activities. Regarding transaction efficiency, 36.7% agreed and 33.3% strongly agreed that QRIS helps them conduct transactions more quickly. Additionally, 50.0% agreed and 43.3% strongly agreed that QRIS eliminates the need to provide change during transactions.

From the perspective of security, most respondents expressed strong confidence in QRIS. In the statement “I feel safe conducting transactions using QRIS,” 63.3% strongly agreed and 33.3% agreed. Likewise, 70.0% strongly agreed that QRIS helps them avoid counterfeit money, while 43.3% agreed and 43.3% strongly agreed that QRIS is safe to use as a payment transaction system in their business.

Finally, regarding business performance, the statement “My business income increased after I started using QRIS” received positive responses, with 40.0% agreeing and 53.3% strongly agreeing. Overall, these findings indicate that MSMEs in Jayapura Regency perceive QRIS as easy to use, beneficial for business operations, efficient for transactions, and secure as a digital payment system.

Description of the Results of Percentage Analysis of Respondents' Answers on the UMKM Income Variable (Y)

Table 6. Questionnaire Score for the MSME Income Variable (Y)

No	STS		TS		CS		S		SS		Amount	
	F	%	F	%	F	%	F	%	F	%	F	%
1	-	-	-	-	3	10,0%	13	43,3%	14	46,7%	30	100%
2	-	-	1	3,3%	4	13,3%	13	43,3%	12	40,0%	30	100%
3	1	3,3%	-	-	2	6,7%	10	33,3%	17	56,7%	30	100%
4	1	3,3%	-	-	2	6,7%	8	26,7%	19	63,3%	30	100%
5	-	-	1	3,3%	5	16,7%	7	23,3%	17	56,7%	30	100%
6	-	-	2	6,7%	6	20,0%	9	30,0%	13	43,3%	30	100%
7	3	10,0%	3	10,0%	4	13,3%	10	33,3%	10	33,3%	30	100%
8	-	-	1	3,3%	5	16,7%	8	26,7%	16	53,3%	30	100%
9	-	-	1	3,3%	1	3,3%	9	30,0%	19	63,3%	30	100%
10	-	-	-	-	2	6,7%	12	40,0%	15	50,0%	30	100%
11	-	-	-	-	1	3,3%	12	40,0%	17	56,7%	30	100%
12	-	-	-	-	3	10,0%	5	16,7%	22	73,3%	30	100%
13	-	-	-	-	1	3,3%	12	40,0%	17	56,7%	30	100%
14	-	-	1	3,3%	1	3,3%	11	36,7%	17	56,7%	30	100%

Source: SPSS 25.0 Results of Data Processing (2024)

Based on Table 6, respondents' perceptions regarding the impact of the QRIS payment system on MSME business performance in Jayapura Regency show predominantly positive responses. For the statement that QRIS can increase business income, the majority of respondents agreed (43.3%) and strongly agreed (46.7%). Similarly, for the statement that income increased after using QRIS, most respondents agreed (43.3%) and strongly agreed (40.0%). In addition, many respondents indicated that their high business income was one of the reasons for using QRIS, with 56.7% strongly agreeing and 33.3% agreeing.

Regarding business improvement and sales performance, most respondents strongly agreed that QRIS can improve their business (63.3%). Likewise, 56.7% strongly agreed that their business sales increased after using QRIS, while 30.0% agreed and 43.3% strongly agreed that the reason for using QRIS is its potential to increase product sales. In terms of profit, although some respondents expressed disagreement, the majority still agreed (33.3%) or strongly agreed (33.3%) that their profits increased after using QRIS. Furthermore, 53.3% strongly agreed that QRIS can increase business profits, and 63.3% strongly agreed that increased profits are obtained from QRIS transactions.

From the customer perspective, most respondents reported positive outcomes after adopting QRIS. About 50.0% strongly agreed and 40.0% agreed that the number of customers increased after using QRIS. Similarly, 56.7% strongly agreed that QRIS makes customers feel satisfied, and 73.3% strongly agreed that customers prefer to conduct transactions using QRIS. In addition, most respondents agreed that their business products became easier to recognize (56.7% strongly agreed) and that QRIS makes it easier to promote their business (56.7% strongly agreed). Overall, these results indicate that the majority of MSMEs in Jayapura Regency perceive the QRIS payment system as beneficial for improving income, sales, profits, customer satisfaction, and business promotion.

Validity Test

The validity test is conducted to determine whether the questionnaire items are valid in measuring the intended variables. A questionnaire is considered valid if its statements are able to measure what they are intended to measure (Ghozali, 2018). In this study, the validity test was performed using the Pearson Correlation method. An item is considered valid if the calculated correlation coefficient (r-count) is greater than the critical value (r-table), whereas if the r-count is smaller than the r-table, the questionnaire item is considered invalid.

Table 7. Validity Test Variabel X

Var	Rcount	R tabel	Description
X.1	0,394	0,361	Valid
X.2	0,507	0,361	Valid
X.3	0,381	0,361	Valid
X.4	0,585	0,361	Valid
X.5	0,679	0,361	Valid
X.6	0,524	0,361	Valid
X.7	0,458	0,361	Valid
X.8	0,448	0,361	Valid
X.9	0,598	0,361	Valid
X.10	0,499	0,361	Valid
X.11	0,508	0,361	Valid
X.12	0,523	0,361	Valid
X.13	0,507	0,361	Valid
X.14	0,590	0,361	Valid
X.15	0,384	0,361	Valid

Source: SPSS 25.0 Results of Data Processing (2024)

Based on the comparison between the calculated r-value (r-count) and the r-table value, it can be concluded that variable (X) is valid. The data are considered valid if the correlation value is greater than the r-table value (0.361).

Table 8. Validity Test Variable Y

Var	R-count	Rtable	Description
Y1	0,169	0,361	Valid

Y2	0,563	0,361	Valid
Y3	0,572	0,361	Valid
Y4	0,505	0,361	Valid
Y5	0,626	0,361	Valid
Y6	0,397	0,361	Valid
Y7	0,731	0,361	Valid
Y8	0,489	0,361	Valid
Y9	0,438	0,361	Valid
Y10	0,445	0,361	Valid
Y11	0,513	0,361	Valid
Y12	0,530	0,361	Valid
Y13	0,607	0,361	Valid
Y14	0,696	0,361	Valid
Y1	0,169	0,361	Valid

Source: SPSS 25.0 Results of Data Processing (2024)

Based on the comparison between the calculated r-value (r-count) and the r-table value, it can be concluded that the MSME Income variable (Y) is valid. The data are considered valid if the correlation value is greater than the r-table value (0.361).

Reliability Test

The data reliability test is used to assess whether a questionnaire measures a construct or variable consistently or stably over time. A questionnaire is considered reliable if it has a Cronbach's Alpha value greater than 0.6 (Ghozali, 2018).

Table 1. Results of the Reliability Test for Variables X and Y

Variable	Cronbach's Alpha	Critical Value	Description
Use of QRIS Payment System (X)	0,790	> 0.60	Reliable
MSME Income (Y)	0.830	>0.60	Reliable

Source: SPSS 25.0 Results of Data Processing (2024)

Based on Table 9 above, the Cronbach's Alpha value for the Use of the QRIS Payment System (X) variable is 0.790, and the Cronbach's Alpha value for the MSME Income (Y) variable is 0.830. Since the Cronbach's Alpha values are greater than 0.60, it can be concluded that the statements in this questionnaire are reliable.

Descriptive Statistical Analysis

This study uses descriptive statistical analysis to describe the condition of the research variables statistically. To achieve this, the mean, maximum value, minimum value, and standard deviation are used. The descriptive statistical analysis is conducted using the SPSS Statistics 25.0 program.

Table 10. Results of Descriptive Statistical Analysis

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Financial Knowledge (X1)	30	45	72	65,60	6,223
Financial Attitude (X2)	30	41	69	60,86	6,371
Valid N (listwise)	30				

Source: SPSS 25.0 Results of Data Processing (2024)

Based on the results of the data analysis, the descriptive statistics show that the variable Use of QRIS as a Payment Tool (X) has a minimum value of 45 and a maximum value of 72, with a mean of 65.60 and a standard deviation of 6.223. Meanwhile, the MSME Economic Development (Y) variable has a minimum value of 41 and a maximum value of 69, with a mean of 60.86 and a standard deviation of 6.371. These results indicate that the highest average value is found in the Use of QRIS as a Payment Tool (X) variable (65.60), while the lowest average value is found in the MSME Economic Development (Y) variable (60.86). In terms of data distribution, the highest standard deviation occurs in the MSME Economic Development (Y) variable (6.371), whereas the lowest is found in the Use of QRIS as a Payment Tool (X) variable (6.223).

Classical Assumption Test

Normality Test

The normality test aims to examine whether, in the regression model, the disturbance variable or residual has a normal distribution. One way to detect whether the residuals are normally distributed is by using the non-parametric statistical Kolmogorov–Smirnov (K–S) test available in the SPSS program. The Kolmogorov–Smirnov technique applies the criterion that if the significance value is below 0.05, the data are not normally distributed, whereas if the significance value is above 0.05, the data are normally distributed.

Table 11. Results of the Normality Test Using the Kolmogorov–Smirnov Test

		Unstandardized Residual
N		30
Normal Parameters ^{a,b}	Mean	0,0000000
	Std. Deviation	4.30170221
Most Extreme Differences	Absolute	0,92
	Positive	0,087
	Negative	-0,092
Test Statistic		0,092
Asymp. Sig. (2-tailed)		.200 ^c

Source: SPSS 25.0 Results of Data Processing (2024)

Based on the results of the normality test using the Kolmogorov–Smirnov Test above, the data are normally distributed. This is indicated by a significance value of 0.092 > 0.05; therefore, it can be concluded that the data follow a normal distribution.

Heteroskedasticity Test

In a linear regression model, the heteroskedasticity test is used to determine whether there is inequality in the variance of the residuals from one observation to another. If the

variance of the residuals is constant, the condition is referred to as homoskedasticity; if it is not constant, it is referred to as heteroskedasticity.

Table 12. Results of the Heteroskedasticity Test Coefficients^a

Unstandardized Model Coefficients				Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4,688	5,933		0,950	0,350
	Use of the QRIS Payment System	-0,019	0,075	-0,047	-0,249	0,805

Source: SPSS 25.0 Results of Data Processing (2024)

Based on the results of the heteroskedasticity test above using the Glejser test, the significance value is 0.805. Since this value is greater than 0.05, it can be concluded that there is no heteroskedasticity problem in this study.

Simple Linear Regression Analysis

This simple linear regression analysis technique is used to determine the impact of QRIS usage on increasing the income of MSMEs in Jayapura Regency, with the results as shown in the following table.

Table 13. Simple Linear Regression Analysis Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.316	8,606		1,315	0,199
	Use of the QRIS Payment System	0,755	0,131	0,738	5,782	0,000

Source: SPSS 25.0 Results of Data Processing (2024)

It is known that the constant value (a) is 11.316, while the value of QRIS Payment System Usage (b/regression coefficient) is 0.755. Therefore, the regression equation can be written as:

$$Y = a + bX$$

$$Y = 11,316 + 0,755X$$

The regression equation can be interpreted as follows. The constant (a) of 11.316 indicates that the consistent value of the MSME income variable is 11.316 when the QRIS payment system usage variable is assumed to be constant. Meanwhile, the regression coefficient of the QRIS Payment System Usage variable (X) is 0.755, which means that every 1% increase in the use of the QRIS payment system will increase

MSME income (Y) by 0.755. The positive coefficient indicates that the QRIS payment system usage has a positive effect on MSME income.

Hypothesis Testing

t-Test (Partial Test)

The partial test in this study uses a significance level of 0.05. The decision criteria are based on the comparison between the significance value and the t-value. If the significance value is less than 0.05 and the calculated t-value ($t_{\text{calculated}}$) is greater than the t-table value (t_{table}), it indicates that the independent variable has a significant effect on the dependent variable. Conversely, if the significance value is greater than 0.05 and $t_{\text{calculated}}$ is smaller than t_{table} , it indicates that the independent variable has no significant effect on the dependent variable.

Table 14. Results of the Partial Test (t-Test)

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.316	8,606		1,315	0,199
	Use of the QRIS Payment System	0,755	0,131	0,738	5,782	0,000

Source: SPSS 25.0 Results of Data Processing (2024)

Based on the table above, it can be explained that the significance value of the QRIS Payment System Usage on the increase in MSME income in Jayapura Regency shows a positive effect. This can be seen from the significance value of QRIS Payment System Usage (X), which is $0.000 < 0.05$, and the $t_{\text{calculated}}$ value of $5.782 > 1.701$. Therefore, it can be concluded that H1 is accepted and H0 is rejected, meaning that there is a positive and significant effect between the independent variable and the dependent variable.

Coefficient of Determination Test (R^2 Test)

The R^2 test is used to measure how far the model's ability is in explaining the dependent variable. In this study, the coefficient of determination uses the adjusted R^2 value.

Table 15. Results of the Coefficient of Determination Test (R^2)

Model Summary					
Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.783	.544	.528		1.033

a. Predictors: (Constant), X

Source: SPSS 25.0 Results of Data Processing (2024)

From the results of the R^2 test, the adjusted R^2 value is 0.544 or 54.4%. This indicates that 54.4% of the variation in MSME income in Jayapura Regency is influenced by the use of the QRIS payment system.

DISCUSSION

The Use of the QRIS Payment System and MSME Economic Improvement in Jayapura Regency

The results of this study indicate that the use of the QRIS payment system has a positive and significant effect on improving the economic performance of MSMEs in Jayapura Regency. Based on the statistical analysis, the calculated t-value (5.782) is greater than the t-table value (1.701), and the significance value is 0.000, which is lower than the significance level of 0.05. These findings demonstrate that the use of the QRIS payment system significantly influences the increase in MSME income in Jayapura Regency. This result confirms that the adoption of digital payment systems can contribute positively to the development and sustainability of MSMEs, particularly in facilitating faster and more efficient transaction processes.

Although QRIS was officially launched by Bank Indonesia in 2020 as a standardized QR-based payment system, its implementation has already shown meaningful economic benefits for MSME actors. The presence of QRIS simplifies transaction processes and provides convenience for both business owners and customers through non-cash payment mechanisms. As a result, MSMEs are able to reach more customers, improve transaction efficiency, and ultimately increase their business income.

The findings of this study are consistent with previous research. For example, a study by Putri Maulia (2022) found that the use of QRIS had a positive and significant effect on improving the MSME economy in Medan City. Similarly, research conducted by Herlambang (2021) reported that income expectations associated with the use of the Quick Response Indonesia Standard (QRIS) payment system positively influenced the development of MSMEs in Medan. These findings are further supported by research conducted by Hutagalung et al. (2021), which concluded that the implementation of QRIS contributes to business success among MSMEs through improved transaction efficiency and expanded customer reach. Therefore, the results of this study reinforce the growing evidence that digital payment systems such as QRIS can enhance MSME performance and economic development.

Constraints in the Implementation of the QRIS Payment System for MSMEs

Despite the positive impact of QRIS on MSME development, several constraints were identified in its implementation among MSME actors in Jayapura Regency. One of the main challenges is the limited understanding of how QRIS operates among both business owners and customers. During the research process, it was found that only around 30% of MSME actors fully understood the operational mechanism of this payment system. This limited knowledge may hinder the optimal utilization of QRIS in daily business transactions.

Another challenge relates to the relatively low adoption rate of QRIS among customers, as many still prefer using cash transactions. This condition reduces the potential benefits of QRIS for some MSMEs. In addition, technical issues such as unstable internet connectivity can also disrupt transaction processes. Network interruptions may create uncertainty regarding whether a payment has been successfully transferred, which may cause concerns among business owners.

Operational constraints were also reported in relation to the disbursement of funds. In several cases, MSME actors experience delays in receiving transaction funds because the disbursement process does not always occur in real time. This situation can affect business cash flow, particularly for micro-scale enterprises that require immediate

access to funds for operational purposes. Furthermore, the merchant discount rate (MDR) or service fees charged for QRIS transactions are sometimes perceived as an additional burden for micro businesses with relatively unstable income levels.

Nevertheless, the results of the study indicate that these constraints do not significantly affect MSME actors' overall interest in using QRIS. Based on the respondents' responses, only 36.7% of MSME actors stated that these constraints affected their business, while the majority (63.3%) reported that the constraints did not significantly influence their business income. This suggests that despite several implementation challenges, MSME actors still perceive QRIS as a beneficial payment alternative that supports their business operations.

These findings are consistent with the study conducted by Mahyuni and Setiawan (2021), which concluded that the constraints experienced by MSMEs in adopting QRIS are generally not significant enough to discourage its use. Therefore, although certain operational and technical challenges remain, the overall perception of QRIS among MSMEs remains positive, and its adoption continues to support the economic development of small businesses.

CONCLUSION

Based on the results of the research and discussion, it can be concluded that the use of the QRIS payment system has a positive and significant effect on increasing MSME income in Jayapura Regency. This is indicated by the statistical results showing that the calculated t-value (5.782) is greater than the t-table value (1.701) and the significance value is 0.000, which is lower than the significance level of 0.05. These findings indicate that the adoption of QRIS contributes positively to the economic improvement of MSMEs, as most respondents stated that the use of QRIS has a beneficial impact on their business development. Although several constraints were identified, such as limited understanding of QRIS usage, network connectivity issues, delays in fund disbursement, and merchant service fees, these challenges were generally not considered to have a significant impact on MSME income, as the majority of respondents indicated that the constraints did not greatly affect their overall business performance.

LIMITATION

This study has several limitations. First, the research was conducted only among MSMEs in Jayapura Regency with a relatively small sample size of 30 respondents, which may limit the generalizability of the findings. Second, the study only examined the use of the QRIS payment system as the independent variable affecting MSME income, while other factors such as digital literacy, business scale, and financial management were not included. Therefore, future research is recommended to involve a larger sample size, broader research areas, and additional variables to provide more comprehensive results.

ACKNOWLEDGMENT

The authors express gratitude to those who have had the pleasure of cooperating during this study or research.

DECLARATION OF CONFLICTING INTERESTS

The authors have declared no potential conflicts of interest concerning the study, authorship, and/or publication of this article.

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Journal of International Conference Proceedings (JICP)
Vol. 8 No. 2, pp.241-260, September, 2025
E-ISSN: 2621-993X P-ISSN: 2622-0989
<https://ejournal.aibpmjournals.com/index.php/JICP/index>

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