

## The Influence of Financial Literacy, Financial Inclusion, and Social Environment on the Decision to Use QRIS by "MSMEs" in Palu City

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**Abstract.** *This research aims to analyze the factors influencing the decision to use QRIS (Quick Response Code Indonesia Standard) by MSMEs in Palu City. The factors explained include financial literacy, financial inclusion, and social environment. Based on the model analysis results, the R<sup>2</sup> value for the QRIS Usage Decision construct is 0.719, indicating that 71.9% of the variation in usage decisions can be explained by the variables of financial literacy, financial inclusion, and social environment. Additionally, the HTMT test results show that the HTMT values between constructs are below 0.90, indicating that the discrimination between variables in this model is quite good. The test results show that financial literacy does not have a significant effect on the decision to use QRIS, with a coefficient value of 0.300 and a p-value of 0.086 (>0.05). In contrast, financial inclusion (coefficient 0.186, p-value 0.000) and the social environment (coefficient 0.476, p-value 0.001) have a significant effect on the decision to use QRIS by MSMEs. This research found that the social environment has the greatest influence in encouraging the adoption of QRIS. Therefore, community-based policies and trade associations are recommended to promote the use of QRIS among MSMEs. This approach will bring benefits by increasing transaction efficiency, expanding markets, and supporting financial inclusion, which will ultimately boost economic welfare.*

**Keywords:** Financial Literacy<sup>1</sup>, Financial Inclusion<sup>2</sup>, Social Environment<sup>3</sup>, Decision To Use<sup>4</sup>, Qris<sup>5</sup>

**Abstrak.** *Penelitian ini bertujuan untuk menganalisis faktor-faktor yang mempengaruhi keputusan penggunaan QRIS (Quick Response Code Indonesia Standard) oleh UMKM di Kota Palu. Faktor-faktor yang dijelaskan meliputi literasi keuangan, inklusi keuangan, dan lingkungan sosial. Berdasarkan hasil analisis model, nilai R<sup>2</sup> untuk konstruk Keputusan Penggunaan QRIS adalah 0,719, yang menunjukkan bahwa 71,9% variasi keputusan penggunaan dapat dijelaskan oleh variabel literasi keuangan, inklusi keuangan, dan lingkungan sosial. Selain itu, hasil uji HTMT menunjukkan bahwa nilai HTMT antar konstruk berada di bawah 0,90, yang menandakan bahwa diskriminasi antar variabel dalam model ini cukup baik. Hasil pengujian menunjukkan bahwa literasi keuangan tidak berpengaruh signifikan terhadap keputusan penggunaan QRIS, dengan nilai koefisien 0,300 dan p-value 0,086 (>0,05). Sebaliknya, inklusi keuangan (koefisien 0,186, p-value 0,000) dan lingkungan sosial (koefisien 0,476, p-value 0,001) memiliki pengaruh signifikan terhadap keputusan penggunaan QRIS oleh UMKM. Penelitian ini menemukan bahwa lingkungan sosial memiliki pengaruh terbesar dalam mendorong penerapan QRIS. Oleh karena itu,*

*kebijakan berbasis komunitas dan asosiasi perdagangan disarankan untuk mendorong penggunaan QRIS di kalangan UMKM. Pendekatan ini akan membawa maslahat dengan meningkatkan efisiensi transaksi, memperluas pasar, dan mendukung inklusi finansial, yang pada akhirnya mendongkrak kesejahteraan ekonomi.*

**Kata Kunci :** *Literasi Keuangan, Inklusi Keuangan, Lingkungan Sosial, Keputusan Penggunaa<sup>4</sup>, Qris*

## **Introduction**

The development of financial technology in Indonesia has driven the transformation of the payment system toward the digital era, with Bank Indonesia initiating the Quick Response Code Indonesian Standard (QRIS) as the QR-based payment standard (Meena, 2024). QRIS is here to simplify transactions, improve the security and efficiency of payments, and expand financial inclusion for the public. The presence of QRIS aligns with the increasing need of the public and business owners for a fast, practical, and integrated payment system within the national digital financial ecosystem (Nurdin et al., 2021).

For Micro, Small, and Medium Enterprises (MSMEs), payment digitalization plays a strategic role in improving operational efficiency, transaction transparency, and business competitiveness (Latifah et al., 2020). However, this development is not without its challenges. Many MSME actors still face obstacles such as low financial literacy, limited access to formal financial services (financial inclusion), and the influence of the social environment, which also determine their readiness to adopt digital payment systems. This condition highlights the need for a deep understanding of the factors influencing MSME decisions in utilizing QRIS.

In Palu City, the use of QRIS continues to increase along with the region's digital economic growth and high local trading activity. Local governments and Bank Indonesia have also promoted the use of digital payments thru various public activities. Nevertheless, the phenomenon on the ground shows that the adoption of QRIS among MSMEs is still varied. This is interesting to research further, especially regarding how financial literacy,

financial inclusion, and the influence of the social environment shape MSME actors' decisions to use QRIS as a digital payment instrument.

Studies on the adoption of digital payment systems have been conducted extensively, both domestically and internationally. A study by Ly and Ly (2024) in Cambodia used a quantitative approach with PLS-SEM on 359 respondents to integrate the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB). The research results indicate that perceived ease of use and perceived usefulness have a positive influence on attitudes toward and adoption of digital payment systems. Public attitudes and perceived behavioral control also play a significant role in driving adoption, particularly in developing countries. Additionally, financial literacy has a direct impact and serves as a mediating variable in the relationship between public attitudes and adoption. These findings confirm the importance of perceived ease of use, usefulness, and financial literacy factors in increasing the adoption of digital payment systems in emerging markets.

Research in Indonesia also shows significant interest in the adoption of the Quick Response Code Indonesian Standard (QRIS) and digital financial systems. A study conducted by Sulistyarningsih (2021) using the TOE (Technology-Organization-Environment) approach on 178 food and beverage SMEs in the Jakarta, West Java, East Java, and Central Java regions. The research findings indicate that knowledge, organizational readiness, competitive pressure, and third-party support are the main determinants of QRIS adoption, while top management support has no significant impact. The adoption of QRIS has been proven to improve business performance, confirming the important role of organizational and environmental factors in the successful implementation of digital payment systems.

Next, Najib et al (2021) analyzed the factors influencing the adoption of Financial Technology (FinTech) in small food businesses and its impact on business sustainability. Using a modified UTAUT2 model and SEM method on 184 small food business owners, the research results show that knowledge,

perceived security, performance expectancy, social influence, facilitating conditions, and price value all influence the adoption of FinTech. The adoption of FinTech has also been shown to have a positive impact on business sustainability, emphasizing the importance of technological literacy, system security, and social support in driving the utilization of financial technology.

Hamzah Muchtar et al (2024) researched the adoption of QRIS as an electronic payment system using the PLS-SEM approach and involving 195 respondents thru purposive sampling. This study applied the extended UTAUT model and found that social influence and facilitating conditions significantly affected the intention to use QRIS, while performance expectancy and effort expectancy had a positive but non-significant impact. The findings highlight the importance of social support and facility ease in driving the intention to use QRIS among MSME consumers in Indonesia.

In the context of financial literacy, Santoso and Nainggolan (2023) investigated the influence of financial literacy on the effectiveness of QRIS usage among MSME owners in various cities in Indonesia, considering TAM as a moderating variable. Using a quantitative method with 204 MSME respondents who use QRIS, this study found that financial literacy plays a positive role in increasing the effectiveness of QRIS usage. However, TAM did not prove to either strengthen or weaken this relationship, indicating that technology acceptance does not necessarily influence the relationship between financial literacy and the effectiveness of QRIS usage.

Manalu (2025) research also analyzed the influence of financial literacy, financial inclusion, internal control, and financial performance on the decision to use QRIS by MSMEs in Medan City. Using a quantitative approach and purposive sampling technique with 95 respondents, the research results indicate that all these variables have a significant influence, both partially and simultaneously, on the decision to use QRIS. This confirms the importance of financial literacy, access to financial services, internal controls, and financial performance in increasing the adoption of digital payment systems.

Research by Dewi Kumalasari and Sutanto (2024) conducted on MSME actors in Yogyakarta also shows that financial and security literacy has a positive and significant influence on the decision to use QRIS. Using an associative quantitative approach with 106 respondents, this study confirms that the higher the financial literacy and trust in system security, the greater the likelihood of MSMEs adopting QRIS.

Next, Maulana and Ibrahim (2024) analyzed the implementation of QRIS on MSMEs in Kediri City to promote economic growth in the digital era. With a qualitative approach thru interviews with six business owners, the study found that QRIS provides benefits such as increased revenue, customer satisfaction, transaction security, and better financial management. However, the adoption of QRIS is not yet widespread due to low understanding, reliance on cash, and security concerns. This research recommends an active role for the government in education, improving digital literacy, and developing technological infrastructure.

In the context of strengthening MSME digitalization, Wahyuningsih and Avrianto (2023) researched the relationship between financial literacy and QRIS adoption among business owners in Garut Regency. The study results show a significant positive correlation between increased financial literacy and QRIS adoption. The main driving factors include performance expectations, social influence, and user attitudes. This finding confirms that financial literacy and social support play an important role in accelerating the readiness of MSMEs for digital financial innovation.

Research by Rachmawati et al (2023) also shows that financial literacy and the social environment influence the decision to use QRIS by MSME actors in Surakarta. However, the level of education did not act as a moderating variable, so it did not influence the relationship between the two variables and the decision to use QRIS.

This gap is the reason for the need for further research. Considering the unique socio-economic characteristics of MSMEs in Palu City and their

strategic role in the regional economy, it is important to analyze how financial literacy, financial inclusion, and the social environment can influence the decision to use QRIS. This research is expected to contribute both theoretically and practically to supporting the development strategy of digital payment systems in the region.

Based on this background, this study aims to analyze the influence of financial literacy, financial inclusion, and the social environment on the decision to use QRIS among MSMEs in Palu City. The research results are expected to serve as a reference for relevant parties, particularly local governments and Bank Indonesia, in expanding the adoption of digital payment technology in the MSME sector.

## **Literature Review**

### **Attribution theory and Technology Acceptance Model (TAM)**

Attribution theory is a psychological approach that serves to understand and explain individual behavior by tracing the causes believed to underlie that action, whether originating from internal factors within the individual themselves or from the external environment in which they are located. Specifically, this theory emphasizes the importance of the concept of causality in analyzing human behavior (Kelley & Michela, 1980). Attribution theory, further developed by Weiner in his attribution model, states that a person's assessment of an event or action will lead to specific attributions, which are judgments about the cause considered responsible for the outcome of that behavior. This attribution process involves causal thinking that then forms the basis for shaping beliefs, attitudes, and ultimately subsequent behavior. When someone faces an event or makes a decision, they will try to determine whether the cause comes from within themselves or from external conditions that affect them (Alony & Paris, 2014).

Internal factors are those that originate from personal characteristics, such as an individual's level of knowledge, abilities, values, attitudes, and preferences. In this context, financial literacy and financial inclusion are two important indicators that reflect these internal dimensions, as they both show the extent to which someone understands financial information, has access to formal financial services, and is actively involved in the modern financial system. On the other hand, external factors encompass various elements beyond an individual's control, including social norms, the influence of others, culture, public policy, and the dynamics of the social and economic environment. In the context of this research, social environmental factors are considered to reflect the external dimension in measuring the extent of the social environment's influence on an individual's decision-making (Abaddi, 2024).

Technology Acceptance Model (TAM) refers to a conceptual model for testing how someone adopts and begins to use a technology; it is a technology adoption model. "A Technology Acceptance Model for Empirically Testing New End-User Information Systems" is the title of Fred Davis's 1986 dissertation, which introduced this approach. The initial purpose of TAM was to understand user acceptance of information technology innovations, including management information systems and software. With the rapid advancement of technology, the use of TAM has spread to several other technological domains, such as social media, mobile technology, and the Internet of Things (IoT). To meet the demands of technology acceptance analysis across various domains, TAM has undergone numerous modifications and refinements since its inception (Rizky Wicaksono, 2022).

In the context of the increasingly rapid development of financial technology in the digital age, financial literacy plays an important role in determining individuals' acceptance or rejection of information technology. According to previous research, there are two main factors that significantly influence system utilization: perceived usefulness, which indicates the extent

to which a person believes that using the application can improve their performance, and perceived ease of use, which reflects the extent to which the application is considered easy to understand and use without excessive effort. These two factors are the main indicators in the Technology Acceptance Model (TAM) for explaining the decision to use a technology (Davis, 1989).

### **Attribution theory**

Attribution theory is used in this study to explain how MSME actors assess and decide on the use of digital payment technologies such as QRIS based on their perceptions of the causes influencing that decision (Kelley & Michela, 1980). This theory assumes that every individual's actions are driven by their interpretation of causal factors, whether originating from within themselves (such as knowledge, values, and abilities) or from external factors (such as the social environment or policy support) (Alony & Paris, 2014).

In the context of this research, financial literacy and financial inclusion are positioned as internal factors, as both describe an individual's capacity to understand, manage, and utilize digital financial services. Meanwhile, the social environment is seen as an external factor that influences behavior through social norms, peer influence, and business community support. Thus, attribution theory bridges the understanding that MSME actors' decisions to use QRIS are not solely determined by their personal financial capabilities, but also by the social pressure and influence around them.

With this approach, attribution theory serves to explain why some MSMEs quickly adopt QRIS while others are slow, due to differences in perceptions of whether the decision is driven by personal control (internal) or social and environmental pressure (external) (Abaddi, 2024).

### **Technology Acceptance Model (TAM)**

The Technology Acceptance Model (TAM) is used to strengthen understanding of how the process of accepting digital financial technology occurs among MSME actors (Davis, 1989). In the context of QRIS adoption, this

model explains that the decision to use technology is influenced by two main beliefs:

- (1) Perceived Usefulness (PU): the extent to which MSME actors believe that using QRIS can improve transaction efficiency and expand customer reach; and
- (2) Perceived Ease of Use (PEOU): the extent to which QRIS is considered easy to use, understand, and integrate into business activities without requiring complex technical skills (Rizky Wicaksono, 2022).

These two factors are highly correlated with the level of financial literacy and financial inclusion among MSME actors. The higher the understanding of digital finance and access to formal financial services, the greater the likelihood that individuals will perceive QRIS as a useful and easy-to-operate system. Additionally, the influence of the social environment can strengthen perceptions of usefulness and ease of use, as encouragement from business colleagues or the community can boost confidence in using new technology.

Thus, TAM in this study explains how internal factors (financial literacy and inclusion) and external factors (social environment) contribute to the decision to use QRIS, where acceptance of technology is influenced by the perceptions, experiences, and social support surrounding MSME actors.

### **The Influence of Financial Literacy on the Decision to Use QRIS**

Financial literacy describes the extent to which individuals understand and are able to manage financial information to make informed decisions in economic activities (Jose & Ghosh, 2024). Financial literacy is the ability of individuals to understand financial concepts, products, and risks, as well as the ability to manage and make sound financial decisions. Financial literacy enables individuals to assess the benefits and risks of various financial instruments, including digital innovations such as QRIS. A high level of literacy helps business operators understand the advantages of digital payments, choose appropriate options, and optimize their cash flow management and business growth (Fitriani et al., 2025).

In the context of MSME actors, financial literacy plays an important role in improving the ability to understand the benefits and risks of using digital financial technologies such as QRIS. Business owners with high levels of financial literacy will find it easier to assess the potential efficiency of transactions, security, and economic benefits of digital payment systems, making them more prepared to adopt them (Ni Wayan Asri Pradnyani & I Gusti Ayu Made Asri Dwija Putri, 2024).

According to Harli (2015), every aspect of financial management is directly related to the level of financial literacy, as literacy enables individuals to understand and control their finances more effectively. (Remund, 2010) also emphasizes that financial literacy encompasses five main dimensions: knowledge, explanation ability, management skills, wise judgment, and financial confidence, all of which are relevant to decision-making regarding financial innovations.

A number of empirical studies support this relationship. Research by Lilis Anjarwati et al (2023) found that financial literacy has a positive influence on the use of digital financial services. Similar results were shown by Mindra et al (2017), who stated that increased financial literacy significantly contributes to individuals' decisions to utilize technology-based financial products. Thus, the higher the financial literacy level of MSME actors, the greater the likelihood that they will use QRIS as a digital transaction tool.

Hypothesis 1 (H1): Financial literacy has a positive and significant influence on the decision to use QRIS among MSME actors.

### **The Influence of Financial Inclusion on the Decision to Use QRIS**

Financial inclusion reflects the accessibility and ease of access for the public to formal financial services such as savings, credit, insurance, and payment systems (Peraturan Presiden, 2016). Financial inclusion ensures that every individual, including MSME actors, can participate in the financial system to support economic activities more effectively (Sarma Mandira, 2012).

Financial inclusion is an effort to ensure that every individual or business, without exception, has easy, safe, and affordable access to formal financial services, such as bank accounts, credit, savings, insurance, and digital payments. The main objectives are to increase public participation in the financial system, reduce economic disparities, and promote inclusive economic growth. With financial inclusion, the community, especially MSME groups and low-income individuals, can manage their finances more effectively, access financing for businesses, and utilize financial innovations such as digital payments or QRIS (Devi et al., 2025). When MSME actors have easy access to financial services, they tend to be more open to digital payment technology innovations like QRIS. This aligns with Davis (1989) view in the TAM model, that ease of access and perceived usefulness are key factors in technology acceptance. The more inclusive the available financial system, the higher the rate of acceptance and use of digital technology in business activities.

Research by Putri et al (2023) shows that financial literacy significantly influences transactional decisions using QRIS among MSMEs in Bengkulu City. This finding confirms that the better the financial understanding of business owners regarding digital payment services, the greater their tendency to choose QRIS as one of their transaction tools.

Another study by Dewi Kumalasari and Susanto (2024) in Yogyakarta examined financial literacy and security perceptions regarding the decision to use QRIS. The results showed that financial literacy has a positive and significant influence on the decision to use QRIS by MSME actors in Yogyakarta.

Hypothesis 2 (H2): Financial inclusion has a positive and significant effect on the decision to use QRIS among MSME actors.

### **The Influence of the Social Environment on the Decision to Use QRIS**

The social environment plays an important role in shaping individuals' willingness to adopt and utilize financial technology, including systems like QRIS. As an external influence, family, peers, business communities, and social

media networks all have a significant impact on how individuals perceive the benefits and risks of digital financial systems. These influences can either encourage or hinder technology adoption based on societal norms, trust, and perceived value.

In the context of Muamalah, which encompasses all interactions and transactions governed by Islamic law, the social environment plays a key role in ensuring that these interactions align with Islamic ethical values. According to Al-Qaradawi (2020) and El-Gamal (El-Gamal, 2023), Muamalah emphasizes reciprocal cooperation, justice, and avoiding harm. Social support for the adoption of QRIS directly promotes these values by facilitating smoother and more efficient financial transactions. For example, when the community encourages the use of QRIS, they not only support a modern and efficient method of financial exchange but also promote the Islamic principle of Al-Maisir (avoiding gambling and undue speculation), which prevents financial transactions based on uncertainty or fraudulent practices (Hassan, 2021).

QRIS helps reduce Gharar (uncertainty or risk) in financial transactions. As emphasized by Ahmad (2020), Gharar occurs when parties engage in contracts or transactions with unclear terms, leading to risks, exploitation, and unfair profits. By promoting the widespread adoption of QRIS, the social environment helps reduce Gharar in financial transactions. QRIS provides transparent and real-time transaction records, reducing the ambiguity often associated with cash handling or informal transactions. This transparency aligns with the core principles of Islamic finance, namely justice, accountability, and trust.

As noted by Dvorský et al. (2021), the role of the social environment in shaping behavior is crucial for the acceptance of financial innovations. When the social environment—through family, community, and social networks—supports digital financial services, it builds a foundation of trust, which is crucial for reducing Gharar. In this case, a supportive social environment can act as a safeguard, ensuring that QRIS transactions are trustworthy and

reducing the potential for exploitative or unclear requirements, which are prohibited in Islamic finance.

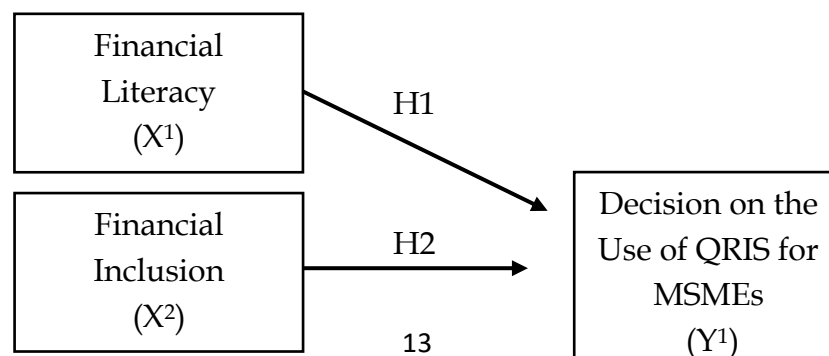
Empirical evidence supports this statement. A study by Pakaya et al. (2021) highlights that social influence positively affects the adoption of digital financial technology among MSMEs. Furthermore, Riska et al. (2024) demonstrate that a supportive social environment not only builds trust but also increases readiness to embrace digital financial solutions. When businesses feel that the adoption of QRIS is socially encouraged and supported, they are more likely to adopt it, thereby reducing Gharar by increasing the clarity and security of financial transactions.

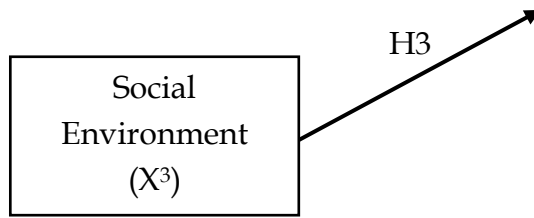
From an Islamic perspective, the implementation of QRIS is an example of efforts to promote Maslahah (public interest), as it contributes to the welfare of society by enhancing financial inclusion, ensuring transparency, and reducing the risk of fraudulent or ambiguous transactions. By reducing Gharar, QRIS encourages a more equitable and transparent financial system, benefiting both businesses and consumers (Rahmat et al., 2025).

In conclusion, the social environment plays a crucial role in bridging the gap between technology adoption and Islamic finance principles (Primadhany et al., 2025). A supportive social environment not only encourages the adoption of QRIS but also aligns with the values of Muamalah by fostering transparency and reducing the risk of Gharar, ultimately benefiting the public interest and strengthening trust in the digital financial system.

Hypothesis 3 (H3): The social environment has a positive and significant influence on the decision to use QRIS among MSME actors.

### Framework





**Figure 1. Conceptual Framework**

Description :

—————→ : Partial Influence

The purpose of this study is to determine how social context, financial inclusion, and financial literacy influence MSME decisions in Palu City to adopt QRIS. Based on these reasons, the research hypotheses are:

H1: Financial literacy has a positive and significant effect on the decision to use QRIS among MSME actors in Palu City.

H2: Financial inclusion has a positive and significant effect on the decision to use QRIS among MSME actors in Palu City.

H3: The social environment has a positive and significant effect on the decision to use QRIS among MSME actors in Palu City.

## Method

This research uses a quantitative approach with a cross-sectional design, meaning data collection is done at a specific point in time. The type of research used is verification because it aims to test the truth of the hypothesis regarding the influence of financial literacy, financial inclusion, and the social environment on MSME decisions to use QRIS. The research was conducted in Palu City from August to October 2025, considering that the number of MSMEs using QRIS in this region is relatively high.

The study population consists of all MSMEs in Palu City, totaling 29,561 business units (Safitri et al., 2024). The sampling technique used purposive sampling with the criteria of MSMEs residing in Palu City and having used QRIS. Based on Slovin's calculation with a 10% margin of error, a sample size

of 100 respondents was obtained. The consideration of a 10% margin of error was chosen to maintain data representativeness while still considering the limitations of time and research resources.

This research sample uses a purposive sampling method, which means the researcher selects members of the population who are considered representative of the population and aligned with the research objectives. The criteria for the sample are:

1. Respondents who own micro, small, and medium enterprises (MSMEs) and reside in Palu city;
2. MSMEs that have used QRIS as a payment method. In determining this research sample, the researcher used a formula with the Slovin method.

$$n = \frac{N}{1 + Ne^2}$$

Explanation :

$n$  = Sample size

$N$  = Population size

$e$  = Margin of error (0,1)

Given :

$N = 29.561$

$e = 0,1$  (Margin Error 10%)

Question: What is the value of  $n$  ? .....

$$n = \frac{29.561}{1 + 29.561(0,1)^2} = \frac{29.561}{296,61} = 99,66 \text{ rounded to } 100$$

Thus, the number of SMEs to be studied is 100 SMEs.

The variables studied consist of financial literacy (X1), financial inclusion (X2), social environment (X3), and the decision to use QRIS (Y). Financial literacy is measured thru indicators of basic financial knowledge,

financial management skills, and risk awareness. Financial inclusion is measured thru indicators of accessibility, use of financial products, and service quality. The social environment is measured thru indicators of family support, peer influence, and community encouragement. As for the decision to use QRIS, it is measured thru the indicators of convenience, transaction speed, security, and comfort.

The research instrument was a Likert scale questionnaire (1-5), ranging from "strongly disagree" to "strongly agree." The data analysis used to test the influence of financial literacy, financial inclusion, and the social environment on the decision to use QRIS was conducted using the Partial Least Square (PLS) method. PLS is one of the methods in Structural Equation Modeling (SEM) that is considered most suitable for the purposes of this study compared to other SEM techniques. This consideration is based on the relatively small sample size, the potential for non-normal data distribution, and the use of both formative and reflective indicators, which makes PLS more suitable to choose.

Partial Least Squares (PLS) analysis is a multivariate statistical technique used to compare endogenous and exogenous variables (Abdillah and Hartono, 2015). The advantage of PLS over linear regression is that it does not require the classical assumptions to be met, such as normality, autocorrelation, multicollinearity, or heteroskedasticity (Oubrahim et al., 2023). Meanwhile, linear regression must meet all of these assumptions. The PLS method is also designed to address various data issues, such as small sample size, missing data, and multicollinearity (P. A. Putri et al., 2024).

As an analytical tool, this study uses SmartPLS software version 4.0. The analysis stages in SmartPLS require the researcher to construct the model in the form of a path diagram. After the path model is completely constructed, the next step is to estimate and comprehensively evaluate the results of the model testing.

### **Table 1. Research Variables and Indicators**

Financial Literacy (X <sup>1</sup> )	<ul style="list-style-type: none"> <li>• Knowledge of financial concepts;</li> <li>• The ability to explain financial concepts;</li> <li>• Ability to manage personal finances;</li> <li>• Skills in making intelligent judgments; and</li> <li>• Confidence in effectively planning for future financial needs.</li> </ul>	(Remund, 2010)
Financial Literacy (X <sup>2</sup> )	<ul style="list-style-type: none"> <li>• Availability,</li> <li>• Usage</li> <li>• and quality of financial services</li> </ul>	(Mindra et al., 2017)
Social Environment (X <sup>3</sup> )	<ul style="list-style-type: none"> <li>• Family</li> <li>• Society</li> <li>• Politics</li> <li>• Social Media</li> </ul>	(Dvorský et al., 2021)
Decision to Use QRIS (Y)	<ul style="list-style-type: none"> <li>• Perceived Usefulness</li> <li>• Perceived Ease of Use</li> </ul>	(Davis, 1989), (Gunawan et al., 2020), and (Rizky Wicaksono, 2022)

## Results and Discussion

### Respondent Demographics

The characteristics of the respondents in this study are presented in Table 1. Based on the results of the questionnaire distribution, the composition of respondents by gender shows that the majority of respondents are female, at 59%, while male respondents make up 41%. This indicates that the MSME actors participating in this study are more predominantly female. Based on age group, the majority of respondents were in the 31-40 age range, accounting for 44%.

This was followed by respondents aged 21-30 (26%), those over 41 (21%), and those under 20 (9%). This data indicates that most MSME owners are in their productive years and have significant business experience. Based on the type of MSME operated, the culinary category dominated with a percentage of 39%.

This was followed by mixed goods businesses (32%), services (9%), fashion, beauty, and clothing (8%), spices (6%), crafts (4%), and pharmaceutical

businesses (2%). These results show that the culinary sector is the most common type of business among respondents in this study.

**Tabel 2. Respondent Demographics**

<b>Respondent Demographics</b>	<b>Persentase</b>
<b>Gender</b>	
Male	41%
Femala	59%
<b>Age's</b>	
<20 Years	9%
21-30 Years	26%
31-40 Years	44%
41> Years	21%
<b>Type of MSME</b>	
Crafts	4%
Mixed Goods	32%
Medications	2%
Culinary	39%
Services	9%
Fashion, Beauty, and Clothing	8%
Spices	6%

Source: Processed data, 2025

### **Testing the Measurement Model (Outer Model)**

The measurement model in this study was analyzed using the Partial Least Squares (PLS) approach, with data processing performed thru the SmartPLS 4 application. The sample size used in this study was 100 respondents. The path coefficient in the outer model testing results indicates that financial literacy contributes 0.300 to influencing the decision to use QRIS. Furthermore, financial inclusion contributes 0.186 to the decision to use QRIS. Meanwhile, the influence of the social environment on the decision to use QRIS is the greatest, contributing 0.476 in assessing the decision to use QRIS.

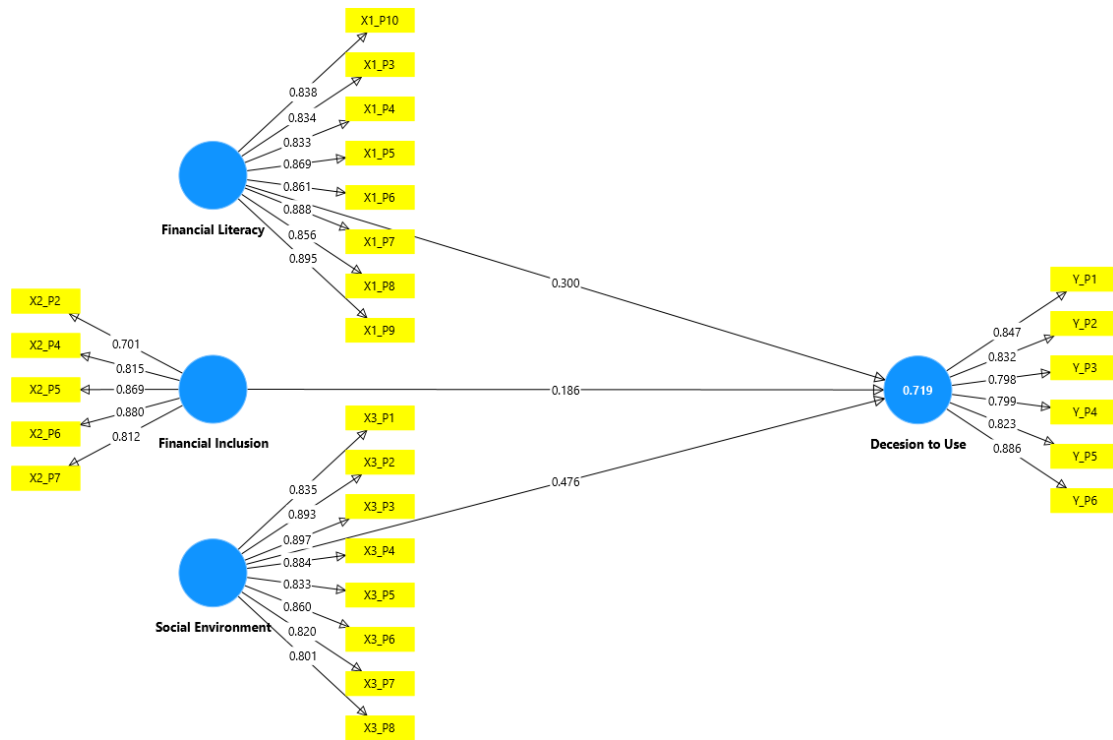


Figure 2. Results of the Outer Model

Table 3. Outer Model Measurement Results

Construct	Item Code	Outer Loading	Average variance extracted (AVE)	Cronbach's Alpha	Composite reliability
Financial Literacy	FL10	0,838	0,739	0,949	0,958
	FL3	0,834			
	FL4	0,833			
	FL5	0,869			
	FL6	0,861			
	FL7	0,888			
	FL8	0,856			
	FL9	0,895			
	Financial Inclusion	FI2			
FI4		0,815			
FI5		0,869			
FI6		0,880			

	FI7	0,812			
Social Environment	SE1	0,835			
	SE2	0,893			
	SE3	0,897			
	SE4	0,884	0,728	0,947	0,930
	SE5	0,833			
	SE6	0,860			
	SE7	0,820			
	SE8	0,801			
Decision to Use	DTU1	0,847			
	DTU2	0,832			
	DTU3	0,798	0,691	0,910	0,910
	DTU4	0,799			
	DTU5	0,823			
	DTU6	0,886			

Testing the outer model aims to assess the validity and reliability of the constructs. Based on Table 3, Outer Model Measurement Results, all indicators for the Financial Literacy, Financial Inclusion, Social Environment, and Usage Decision variables have outer loading values above 0.70. This indicates that each indicator is valid for measuring the construct under study. Additionally, the AVE values for each construct are also above 0.50, thus meeting the criteria for convergent validity. The Cronbach's Alpha and Composite Reliability values for all variables are above 0.70, indicating that all constructs have good internal reliability. Thus, the indicators in this model are declared valid and reliable, making them suitable for further analysis.

**Table 4. Heterotrait-monotrait ratio (HTMT) Result**

Construct	FL	FI	SE	DTU
FL	1			

FI	0,624	1		
SE	0,757	0,610	1	
DTU	0,799	0,694	0,847	1

*Note: FL: Financial Literacy, FI: Financial Inclusion, SE: Social Environment, DTU: Decision to Use.*

Discriminant validity testing using HTMT is presented in Table 4. Heterotrait-monotrait ratio (HTMT) results: All HTMT values between constructs are < 0.90, so it can be concluded that each variable has good discrimination from each other. This means that each construct is capable of explaining different phenomena according to its theoretical concept.

**Table 5. Quality Criteria Model**

Construct	VIF	R2	Q2	Goodness of Fit (GoF)
Financial Literacy	2.281			
Financial Inclusion	1,591	0,719	0,481	0,712
Social Environment	2,237			

Source: Research Analysis

The results of the model quality testing are shown in Table 4. The Heterotrait-Monotrait Ratio (HTMT) results indicate that the VIF values for all variables are < 3, so there is no multicollinearity in the model. The R<sup>2</sup> value for the Use Decision construct is 0.719, which means that 71.9% of the variation in use decisions can be explained by Financial Literacy, Financial Inclusion, and the Social Environment. The Q<sup>2</sup> value of 0.481 indicates that the model has good predictive relevance. Additionally, the Goodness of Fit (GoF) value of 0.712 indicates that the model has excellent overall suitability.

**Table 6. Path Coefficient Results**

Relationship	Coefficient	T statistics	P values	95% BCA Confidence Interval		F2
				Lower	Upper	

FL-> DTU	0,300	1,720	0,086	0,033	0,680	0,140
FI -> DTU	0,186	3,798	0,000	0,089	0,279	0,078
SE -> DTU	0,476	3,231	0,001	0,154	0,702	0,360

Source: Research Analysis

*Note: FL: Financial Literacy, FI: Financial Inclusion, SE: Social Environment, DTU: Decision to Use. BCa: bias-corrected and accelerated. Brackets show the lower and upper bounds of the 95% BCa confidence intervals.*

Based on the results of the path coefficient estimation in Table 6, Path Coefficient Results, the following findings were obtained:

**Influence of Financial Literacy on Usage Decision** The coefficient value of 0.300 with a p-value of 0.086 ( $>0.05$ ) indicates that financial literacy does not significantly influence the decision of MSME actors to use QRIS. Although the direction of the relationship is positive, the level of financial literacy has not become a dominant factor in determining usage decisions.

**Influence of Financial Inclusion on Usage Decisions** The financial inclusion variable has a positive and significant influence on usage decisions with a coefficient value of 0.186 and a p-value of 0.000 ( $<0.05$ ). This indicates that the higher the level of access and utilization of financial services, the higher the decision of MSMEs to use QRIS.

**Influence of Social Environment on Usage Decision** The social environment variable shows a positive and significant influence on usage decision with a coefficient of 0.476 and a p-value of 0.001 ( $<0.05$ ). This means that social pressure from the environment, such as friends, family, and community, plays an important role in encouraging MSMEs to use QRIS. Which ultimately brings benefits in the form of transaction ease, increased efficiency, and expanded market access, as well as supporting broader economic progress.

Overall, the research results show that financial inclusion and the social environment have a significant influence, while financial literacy does not have a significant impact on MSMEs' decision to use QRIS.

## **Conclusion**

Based on the results of this study, it can be concluded that H1 is rejected, indicating that financial literacy does not have a significant effect on the decision to use QRIS among MSME actors. This indicates that the level of understanding and knowledge of finance has not become the main factor in encouraging MSME actors to use QRIS as a digital payment tool. H2 is accepted, which means that financial inclusion has a positive and significant impact on the decision to use QRIS. Thus, the easier access MSMEs have to formal financial services, the higher their tendency to use QRIS in their business transaction activities. Next, H3 was also accepted, indicating that the social environment has a positive and significant influence on the decision to use QRIS. This means that social encouragement, environmental influence, and the habits of the surrounding community play an important role in promoting the use of QRIS by MSME actors. This has benefits because the more MSMEs adopt QRIS, the greater the opportunity to enhance financial inclusion, accelerate transactions, and advance the local economy. With strong social support, the use of QRIS can create greater benefits for both MSME actors and the community as a whole.

Referring to research findings that show social influence has a significant predictive value of 0.476 on the decision to use QRIS by MSMEs in Palu City, there are several important implications for policymakers and related parties:

### **The Role of Bank Indonesia in Supporting QRIS Adoption**

Bank Indonesia, as the authority responsible for monetary policy and the digital payment system, can utilize these findings to more intensively promote QRIS adoption among MSMEs. One of the strategies that can be implemented

is by leveraging the Social Environment, such as collaborating with local figures, community leaders, and trade associations. This approach can accelerate the implementation of QRIS by leveraging the social influence that has already been established in the community.

### **The Role of the Palu Local Government in Facilitating Access and Education**

The Palu City Government also plays an important role in facilitating the dissemination of QRIS by educating MSMEs about the benefits that can be obtained from using this digital payment system. Considering the strong social influence at the community level, collaboration between the local government and local communities, such as religious leaders, neighborhood heads, or trade associations, can be a strategic step in introducing QRIS. Thru this channel, information and awareness about QRIS can be more easily accepted and embraced by MSMEs.

### **Utilization of Community Forums and Associations**

To maximize social influence, both parties (Bank Indonesia and the local government) can organize forums or training sessions involving community leaders and trade associations, who will act as agents of change. In this forum, not only will the benefits of QRIS be discussed, but also practical ways of its implementation and utilization in the daily operations of MSMEs. The presence of trusted community leaders will make the information conveyed more accepted by community members.

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