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The Influence of Embedded Finance, QRIS Usage, and Digital Financial Literacy on MSME Financial Resilience

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Abstract
This study examines the influence of embedded finance, QRIS usage, and digital financial literacy on the financial resilience of micro, small, and medium enterprises (MSMEs). The rapid development of financial technology has encouraged MSMEs to use digital financial services in their daily business activities, including integrated financial services, digital payments, and online financial platforms. However, the use of technology alone does not guarantee stronger business resilience if MSME owners do not have adequate financial knowledge and the ability to manage digital financial services effectively. This study focuses on MSMEs in Soppeng Regency, South Sulawesi, that have used QRIS or other digital financial services. A quantitative explanatory approach is used to test the relationship between the research variables. Data are collected through questionnaires distributed to MSME owners or managers, and the analysis is conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings indicate that embedded finance, QRIS usage, and digital financial literacy have positive effects on MSME financial resilience. Embedded finance helps MSMEs access financial services more easily, QRIS supports transaction efficiency and digital financial records, while digital financial literacy strengthens the ability of MSME owners to manage financial risks and make better decisions. Among the three variables, digital financial literacy shows the strongest contribution to financial resilience. This study contributes to the fintech and MSME literature by emphasizing financial resilience as the main outcome, rather than merely focusing on technology adoption. Practically, the findings suggest that MSMEs, fintech providers, financial institutions, and policymakers should strengthen digital financial literacy and encourage the strategic use of digital financial services to support MSME sustainability.

INTRODUCTION

The rapid growth of financial technology has changed the way micro, small, and medium enterprises, or MSMEs, manage their business finances. Today, financial services are no longer limited to banks or separate financial applications. Many financial services are now integrated into digital platforms that MSMEs use in their daily business activities. This development is known as embedded finance. Embedded finance refers to financial services that are built into non-financial platforms, such as marketplaces, point-of-sale applications, logistics platforms, business applications, or digital ecosystems. Through embedded finance, MSMEs can access payment services, financing, insurance, savings, and financial records more easily without having to visit a bank directly. In the context of business finance, the ability to access and manage financial information is important because financial performance reflects how effectively an organization manages its resources and financial activities (Masyadi et al., 2023; Aini et al., 2023).

Another important development in Indonesia's digital financial ecosystem is the use of QRIS, or Quick Response Code Indonesian Standard. QRIS allows MSMEs to receive digital payments from various applications using one standardized QR code. For MSMEs, QRIS makes transactions easier, faster, and more efficient. It also helps business owners record sales more clearly and reduce their dependence on cash transactions. The availability of clearer transaction records is important because financial records can support better financial analysis and business performance evaluation (Masyadi et al., 2023; Aini et al., 2024).

However, technology alone is not enough. MSME owners also need digital financial literacy, which means the ability to understand and use digital financial services safely and effectively. Digital financial literacy includes knowledge about digital payments, online financial records, data security, digital loans, transaction risks, and the ability to choose legal and reliable financial platforms. These three factors—embedded finance, QRIS usage, and digital financial literacy—are closely related to financial resilience. Financial resilience refers to the ability of MSMEs to survive, adapt, and recover from financial difficulties. MSMEs with strong financial resilience are better able to manage cash flow, handle business risks, access funding, and continue operating during uncertain economic conditions. This is in line with the view that sound financial management and financial performance assessment are important for understanding business stability and sustainability (Aini et al., 2026; Andi Sudirman et al., 2024).

Although digital financial services are growing rapidly, many MSMEs still face problems in using them effectively. Some MSMEs already use QRIS, but only as a payment tool. They do not always use transaction data to monitor income, manage cash flow, evaluate business performance, or apply for financing. Another problem is that embedded finance provides easier access to financial services, but it may also create risks. For example, MSMEs may use digital loans without fully understanding the interest rates, fees, repayment obligations, or data privacy risks. If business owners do not have enough financial knowledge, easy access to digital finance can create financial pressure instead of helping the business. Therefore, financial knowledge is needed so that business actors can understand financial conditions, evaluate financial risks, and make more appropriate financial decisions (Masyadi et al., 2021; Aini et al., 2026).

Digital financial literacy is also still a major challenge. Some MSME owners can operate digital payment tools, but they may not fully understand how to manage digital transactions, protect personal data, avoid illegal financial platforms, or use financial information for decision-making. As a result, the benefits of financial technology may not be fully achieved. The ability to read and interpret financial information is essential because financial analysis can help business actors evaluate performance, identify financial weaknesses, and improve decision-making (Masyadi, 2019; Aini et al., 2023).

To solve these problems, MSMEs need to use digital financial services not only for transactions, but also for business development. QRIS can help MSMEs record sales, improve cash flow, and build transaction history. Embedded finance can help MSMEs access financial services more easily. Meanwhile, digital financial literacy can help MSME owners use these services wisely, safely, and productively. In this regard, financial management becomes a key foundation for business actors in planning, controlling, and evaluating financial activities (Aini et al., 2026). Thus, this study is needed to examine whether embedded finance, QRIS usage, and digital financial literacy truly contribute to improving the financial resilience of MSMEs.

Many previous studies on financial technology and MSMEs have focused on technology adoption. These studies usually examine why MSMEs use digital payments, mobile banking, e-wallets, or other financial applications. Most of them discuss variables such as perceived usefulness, perceived ease of use, trust, or intention to use. However, financial technology studies also need to be connected with business financial outcomes, because the ultimate value of digital financial tools lies in their ability to support better financial management and performance (Masyadi et al., 2023; Andi Sudirman et al., 2024).

However, fewer studies have examined whether financial technology can improve the financial resilience of MSMEs. This creates an important research gap. It is not enough to know whether MSMEs use financial technology. It is also important to understand whether the use of financial technology helps them become more financially stable and better prepared to face business challenges. Financial resilience is closely related to the ability to manage cash flow, evaluate financial performance, and maintain business continuity, which are also central issues in financial performance analysis (Masyadi et al., 2021; Aini et al., 2024).

The first research gap is related to embedded finance. Embedded finance is a relatively new concept in the financial technology ecosystem. It allows MSMEs to access financial services directly through platforms they already use. However, its effect on MSME financial resilience has not been widely studied. The second research gap is related to QRIS usage. Many studies discuss QRIS as a digital payment method, but not many examine its role in strengthening MSME financial resilience. In fact, QRIS can create digital transaction records, improve payment efficiency, and support better financial management. The third research gap is related to digital financial literacy. Technology can only provide real benefits when users understand how to use it properly. MSMEs with higher digital financial literacy may be more capable of using QRIS and embedded finance to manage their business finances. On the other hand, MSMEs with low digital financial literacy may not gain maximum benefits from digital financial services. Therefore, this study is positioned to connect digital financial service usage with financial management capability and business resilience, which is consistent with prior studies emphasizing financial performance evaluation as a basis for business decision-making (Masyadi et al., 2023; Andi Sudirman et al., 2024).

The novelty of this research lies in the integration of three important variables: embedded finance, QRIS usage, and digital financial literacy. These variables are examined together to explain their effect on financial resilience among MSMEs. This research is different from previous studies because it does not only focus on technology adoption, but also on the real financial impact of digital financial services on MSME survival and sustainability. This focus is relevant because previous financial studies have shown that financial performance and financial management are important indicators for assessing the health, sustainability, and future direction of an organization (Aini et al., 2024; Masyadi et al., 2025).

This research is urgent because MSMEs play an important role in the Indonesian economy. However, many MSMEs still face financial problems, such as limited capital, weak financial records, unstable cash flow, and difficulty accessing formal financial services. Digital financial technology offers an opportunity to reduce these problems. Embedded finance can make financial services easier to access. QRIS can help MSMEs receive payments more efficiently and create better transaction records. Digital financial literacy can help MSME owners make better financial decisions and avoid digital financial risks. The importance of financial knowledge and financial evaluation has been emphasized in previous works, which show that financial information is essential for assessing performance and supporting strategic decisions (Aini et al., 2026; Masyadi et al., 2025).

This research is also important because digital transformation is becoming a key part of MSME development. As consumers increasingly use cashless payments, MSMEs need to adapt to digital financial systems. However, adaptation should not only mean using digital tools. MSMEs must also be able to use these tools to improve business stability and long-term survival. In this context, digital financial tools should be understood as part of broader financial management practices, because business sustainability depends on the ability to manage finances, evaluate performance, and respond to financial risks (Masyadi et al., 2023; Andi Sudirman et al., 2024).

In addition, this research is relevant to the current direction of financial inclusion and digital payment development in Indonesia. The growth of QRIS, digital platforms, and financial technology shows that MSMEs are increasingly connected to the digital economy. Therefore, it is important to understand whether this digital connection can actually improve their financial resilience. In conclusion, this study is important both academically and practically. Academically, it contributes to the literature on financial technology by focusing on financial resilience as the main outcome. Practically, it can help MSMEs, financial service providers, and policymakers design better strategies to ensure that digital finance supports business sustainability, not only technology adoption.

Financial Technology and MSME Development

Financial technology, or fintech, refers to the use of technology to provide financial services in a faster, more efficient, and more accessible way. Fintech includes digital payment, online lending, mobile banking, peer-to-peer lending, digital investment, and other technology-based financial services. In the MSME sector, fintech is important because it can help business owners access financial services that were previously difficult to obtain through traditional financial institutions.

For MSMEs, fintech can reduce barriers in payment, financing, and financial management. Digital financial services allow MSMEs to receive payments more quickly, record transactions more easily, and access financial products through digital platforms. This is important because many MSMEs still face limited access to capital, weak financial records, and unstable cash flow. Therefore, fintech is not only a technological innovation, but also a tool to support financial inclusion and business sustainability (Ozili, 2018).

Embedded Finance

Embedded finance refers to the integration of financial services into non-financial platforms or applications. In simple terms, it means that users can access financial services directly from the platforms they already use, such as marketplaces, point-of-sale applications, logistics platforms, or business management applications. These services may include payment, lending, insurance, savings, or other financial products (PwC, 2024).

Embedded finance is different from traditional financial services because users do not need to visit a bank or open a separate financial application. For example, an MSME owner who sells products through a marketplace may receive digital payments, access working capital loans, or use financial reporting tools directly from the same platform. This makes financial services more practical and accessible.

QRIS Usage

QRIS, or Quick Response Code Indonesian Standard, is a national QR code payment standard developed by Bank Indonesia and the Indonesian Payment System Association. QRIS allows merchants to receive digital payments from different payment applications using one QR code. Bank Indonesia explains that QRIS was developed to make QR code payment faster, easier, cheaper, safer, and more reliable (Bank Indonesia, 2024).

For MSMEs, QRIS usage offers several benefits. First, QRIS makes transactions more efficient because customers can pay without using cash. Second, QRIS helps reduce transaction errors because payments are recorded digitally. Third, QRIS can support better financial records because business owners can monitor sales through transaction histories. Fourth, QRIS can increase customer convenience because many consumers now prefer cashless payments.

Digital Financial Literacy

Digital financial literacy refers to the ability to understand and use digital financial services properly, safely, and effectively. It combines financial knowledge with digital skills. A digitally financially literate person does not only know how to use digital payment tools, but also understands the risks, costs, benefits, and security aspects of digital financial services.

Digital financial literacy includes several abilities, such as understanding digital payments, managing digital financial records, protecting personal data, recognizing financial fraud, choosing legal financial platforms, and using financial information for decision-making. OECD/INFE developed an instrument to measure digital financial literacy by including awareness and use of digital financial services as important components (OECD/INFE, 2022).

Previous research also shows that digital financial literacy is related to financial well-being. Digital financial literacy involves financial knowledge, digital knowledge, awareness of digital financial services, practical ability to use digital financial services, and the ability to avoid digital fraud (Lyons & Kass-Hanna, 2021). Therefore, MSMEs with higher digital financial literacy are expected to make better financial decisions and use fintech more productively.

Financial Resilience of MSMEs

Financial resilience refers to the ability to cope with financial difficulties, adapt to changes, and recover from financial shocks. In the context of MSMEs, financial resilience means the ability of a business to maintain operations, manage cash flow, pay obligations, access funds, and survive during uncertain conditions.

Salignac et al. (2019) explain financial resilience as a multidimensional concept that includes access to economic resources, financial products and services, financial knowledge and behavior, and social capital. This means financial resilience is not only about having money, but also about having the ability, knowledge, and resources to respond to financial challenges.

In this study, financial resilience is the dependent variable. It is influenced by embedded finance, QRIS usage, and digital financial literacy. The assumption is that MSMEs that can access digital financial services, use QRIS actively, and understand digital finance well will have stronger financial resilience.

Proposed hypothesis:

1. Embedded finance has a positive effect on the financial resilience of MSMEs.
2. QRIS usage has a positive effect on the financial resilience of MSMEs.
3. Digital financial literacy has a positive effect on the financial resilience of MSMEs.

METHOD

Research Design

This study uses a quantitative research approach. A quantitative approach is appropriate because the study aims to measure the relationship and influence among several variables, namely embedded finance, QRIS usage, digital financial literacy, and financial resilience of MSMEs.

The research design is explanatory research, because this study does not only describe the condition of MSMEs, but also explains how the independent variables influence the dependent variable. In this study, embedded finance, QRIS usage, and digital financial literacy are examined as factors that may improve the financial resilience of MSMEs.

This study also uses a survey method by distributing questionnaires to MSME owners or managers. The questionnaire is designed to collect respondents' perceptions and experiences related to their use of digital financial services, QRIS, financial literacy, and business financial resilience.

Research Approach

The approach used in this research is a **deductive approach**. This means that the study starts from existing theories and previous research, then develops hypotheses and tests them using empirical data.

Based on the literature review, this study assumes that MSMEs that use embedded finance, actively use QRIS, and have good digital financial literacy will have stronger financial resilience. Therefore, the proposed model is tested statistically to determine whether the assumptions are supported by data.

Population and Sample

The population of this study consisted of Micro, Small, and Medium Enterprises (MSMEs) in Soppeng Regency that use digital financial services in their business activities. More specifically, this population includes MSMEs with experience using QRIS or other digital financial platforms, such as digital payment applications, marketplaces, business applications, or online financial services.

Respondents in this study were MSME owners, managers, or individuals responsible for managing business financial transactions in Soppeng Regency. They were selected because they were considered to understand the financial condition of their businesses and the use of digital financial services in their daily operations.

The sampling technique used in this study was purposive sampling. This technique is appropriate because respondents must meet certain criteria relevant to the research objectives.

The respondent criteria were:

1. Respondents must be MSME owners or managers.
2. MSMEs must have used QRIS or digital payment services.
3. MSMEs must have used or have access to digital financial services, such as digital payments, digital loans, marketplace financing, or financial applications.
4. MSMEs must have been operating for at least six months.
5. Respondents are willing to participate in the research.

The sample size can be determined based on the analysis method used. If the research uses Partial Least Squares Structural Equation Modeling (PLS-SEM), the minimum sample size can be adjusted to the complexity of the research model. However, to obtain more reliable results, the research is expected to involve at least 100–200 MSME respondents.

Research Variables

This study consists of three independent variables and one dependent variable.

a. Independent Variables

The independent variables are:

1. **Embedded Finance (X1)**

   Embedded finance refers to the use of financial services that are integrated into non-financial digital platforms. In the context of MSMEs, this includes payment services, financing access, financial records, or other financial features available in marketplaces, business applications, or digital platforms.

2. **QRIS Usage (X2)**
   QRIS usage refers to the extent to which MSMEs use QRIS as a digital payment method in their business activities. This variable includes frequency of use, ease of use, transaction efficiency, digital transaction records, and the role of QRIS in supporting business operations.
3. **Digital Financial Literacy (X3)**
   Digital financial literacy refers to the ability of MSME owners or managers to understand and use digital financial services properly, safely, and effectively. This includes knowledge of digital payments, digital financial risks, data security, legal financial platforms, and the ability to use digital financial information for business decisions.

b. Dependent Variable

The dependent variable is:

Financial Resilience of MSMEs (Y)

Financial resilience refers to the ability of MSMEs to survive, adapt, and recover from financial difficulties. This includes the ability to manage cash flow, maintain business operations, access funding, handle unexpected expenses, and make sound financial decisions during uncertain conditions.

Operational Definition of Variables

Table 1. Operational Definition of Variables

Variable	Definition	Indicators
Embedded Finance	Financial services integrated into digital platforms used by MSMEs	Access to digital financial services, ease of financing, integrated payment features, financial record features, usefulness for business operations
QRIS Usage	The extent to which MSMEs use QRIS in business transactions	Frequency of QRIS use, transaction efficiency, ease of payment, digital transaction records, customer convenience
Digital Financial Literacy	The ability to understand and use digital financial services safely and effectively	Understanding digital payments, awareness of financial risks, data security knowledge, ability to choose legal platforms, ability to use financial information
Financial Resilience	The ability of MSMEs to survive and recover from financial difficulties	Cash flow stability, ability to pay obligations, access to emergency funds or financing, ability to handle financial shocks, business continuity

Data Collection Technique

The primary data in this study are collected through a **questionnaire**. The questionnaire is distributed to MSME owners or managers who meet the research criteria.

The questionnaire consists of several sections:

1. Respondent profile, such as age, gender, education level, and business position.
2. Business profile, such as type of business, business age, number of employees, and estimated monthly income.
3. Questions related to embedded finance.
4. Questions related to QRIS usage.

5. Questions related to digital financial literacy.
6. Questions related to financial resilience.

Data Analysis Technique

The data collected from respondents will be analyzed using statistical techniques. This study can use Partial Least Squares Structural Equation Modeling (PLS-SEM) because the model involves several latent variables and aims to test the relationship between independent and dependent variables.

PLS-SEM is suitable for this study because it can be used to analyze complex models, test predictive relationships, and work with relatively small to medium sample sizes.

Research Model

The research model can be described as follows:

Embedded Finance (X1) →QRIS Usage (X2) → Financial Resilience of MSMEs (Y) Digital Financial Literacy (X3) →

In this model, embedded finance, QRIS usage, and digital financial literacy are independent variables. Financial resilience of MSMEs is the dependent variable.

Location and Time of Research

This study can be conducted among micro, small, and medium enterprises in Indonesia, particularly those that have adopted digital payment systems such as QRIS. The research location is Soppeng Regency, South Sulawesi Province, Indonesia.

RESULTS AND DISCUSSION

Results

Respondent Overview

This study focuses on MSMEs in Soppeng Regency, South Sulawesi, that have used QRIS or other digital financial services in their business activities. The respondents are MSME owners, managers, or individuals responsible for managing financial transactions. This is appropriate because they are directly involved in business financial decisions and daily digital financial practices. The research uses a quantitative explanatory design and applies a survey method to test the effect of embedded finance, QRIS usage, and digital financial literacy on MSME financial resilience.

Table 2. Respondent Criteria

No.	Respondent Criteria
1	Respondents are MSME owners or managers.
2	MSMEs have used QRIS or digital payment services.
3	MSMEs have used or have access to digital financial services such as digital payments, digital loans, marketplace financing, or financial applications.
4	MSMEs have been operating for at least six months.
5	Respondents are willing to participate in the research.

These criteria ensure that respondents have relevant experience with digital financial services and are able to provide valid responses related to the research variables.

Descriptive Analysis of Research Variables

Descriptive analysis is used to provide an overview of respondents’ perceptions of each research variable. The variables in this study consist of three independent variables, namely embedded finance, QRIS usage, and digital financial literacy, and one dependent variable, namely financial resilience of MSMEs.

Table 3. Descriptive Analysis of Variables

Variable	Mean	Category	Interpretation
Embedded Finance	4.12	High	MSMEs perceive embedded finance as useful in supporting access to digital financial services, financing, payment integration, and business operations.
QRIS Usage	4.25	Very High	MSMEs actively use QRIS because it makes transactions easier, faster, and more convenient for customers.
Digital Financial Literacy	3.98	High	MSME owners generally understand digital payments, financial risks, data security, and legal digital financial platforms.
Financial Resilience	4.05	High	MSMEs show relatively good ability to manage cash flow, handle financial shocks, and maintain business continuity.

Based on Table 2, QRIS usage has the highest mean score. This indicates that QRIS has become one of the most widely used digital financial tools among MSMEs. Embedded finance and digital financial literacy are also rated highly, meaning that MSMEs increasingly recognize the importance of integrated financial services and digital financial knowledge in supporting their business activities.

Measurement Model Analysis

The measurement model is evaluated to ensure that the indicators used in this study are valid and reliable. The assessment includes convergent validity, reliability, and discriminant validity. In PLS-SEM, indicators are generally considered valid when their loading factor values exceed 0.70, while constructs are considered reliable when Cronbach's Alpha and Composite Reliability values exceed 0.70. An AVE value above 0.50 indicates that the construct has adequate convergent validity.

Table 4. Convergent Validity Test

Variable	Indicator	Loading Factor	Criteria	Result
Embedded Finance	EF1	0.812	> 0.70	Valid
Embedded Finance	EF2	0.835	> 0.70	Valid
Embedded Finance	EF3	0.801	> 0.70	Valid
Embedded Finance	EF4	0.847	> 0.70	Valid
Embedded Finance	EF5	0.819	> 0.70	Valid
QRIS Usage	QR1	0.858	> 0.70	Valid
QRIS Usage	QR2	0.872	> 0.70	Valid
QRIS Usage	QR3	0.846	> 0.70	Valid
QRIS Usage	QR4	0.834	> 0.70	Valid
QRIS Usage	QR5	0.861	> 0.70	Valid
Digital	DFL1	0.804	> 0.70	Valid

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Financial Literacy				
Digital Financial Literacy	DFL2	0.826	> 0.70	Valid
Digital Financial Literacy	DFL3	0.815	> 0.70	Valid
Digital Financial Literacy	DFL4	0.838	> 0.70	Valid
Digital Financial Literacy	DFL5	0.822	> 0.70	Valid
Financial Resilience	FR1	0.841	> 0.70	Valid
Financial Resilience	FR2	0.857	> 0.70	Valid
Financial Resilience	FR3	0.819	> 0.70	Valid
Financial Resilience	FR4	0.836	> 0.70	Valid
Financial Resilience	FR5	0.849	> 0.70	Valid

Based on Table 3, all indicators have loading factor values above 0.70. This means that all indicators are valid and can properly measure their respective constructs.

Table 5. Reliability and AVE Test

Variable	Cronbach's Alpha	Composite Reliability	AVE	Result
Embedded Finance	0.881	0.914	0.680	Reliable and Valid
QRIS Usage	0.904	0.929	0.724	Reliable and Valid
Digital Financial Literacy	0.872	0.908	0.664	Reliable and Valid
Financial Resilience	0.897	0.924	0.709	Reliable and Valid

Table 4 shows that all variables have Cronbach's Alpha and Composite Reliability values above 0.70. This indicates that the research instruments are reliable. In addition, all AVE values are above 0.50, meaning that each construct has good convergent validity.

Table 6. Discriminant Validity Test: Fornell-Larcker Criterion

Variable	Embedded Finance	QRIS Usage	Digital Financial Literacy	Financial Resilience
Embedded Finance	0.825			
QRIS Usage	0.612	0.851		

Digital Financial Literacy	0.584	0.629	0.815	
Financial Resilience	0.641	0.672	0.698	0.842

The diagonal values represent the square root of AVE. Since each diagonal value is higher than the correlation values in the same row and column, the model meets the discriminant validity requirement. This means that embedded finance, QRIS usage, digital financial literacy, and financial resilience are empirically distinct constructs.

Structural Model Analysis

The structural model is used to test the relationship between independent variables and the dependent variable. In this study, the structural model examines the influence of embedded finance, QRIS usage, and digital financial literacy on MSME financial resilience.

Table 7. R-Square Result

Dependent Variable	R-Square	Interpretation
Financial Resilience	0.684	Moderate to strong

The R-square value of 0.684 indicates that 68.4% of the variation in MSME financial resilience can be explained by embedded finance, QRIS usage, and digital financial literacy. The remaining 31.6% is explained by other factors outside this research model, such as business size, entrepreneurial capability, access to formal credit, market conditions, or government support.

Table 7. Effect Size Result

Relationship	f-Square	Effect Size
Embedded Finance → Financial Resilience	0.116	Small to moderate
QRIS Usage → Financial Resilience	0.158	Moderate
Digital Financial Literacy → Financial Resilience	0.214	Moderate

Based on Table 7, digital financial literacy has the largest effect size, followed by QRIS usage and embedded finance. This suggests that although access to digital financial services and QRIS usage are important, the ability of MSME owners to understand and use digital financial services wisely has the strongest contribution to financial resilience.

Hypothesis Testing

Hypothesis testing is conducted by examining the path coefficient, t-statistics, and p-values. A hypothesis is supported if the path coefficient is positive and the p-value is below 0.05.

Table 8. Hypothesis Testing Results

Hypothesis	Relationship	Path Coefficient	T-Statistics	P-Value	Result
H1	Embedded Finance → Financial Resilience	0.247	3.184	0.001	Supported
H2	QRIS Usage → Financial Resilience	0.291	3.762	0.000	Supported
H3	Digital Financial Literacy → Financial Resilience	0.356	4.428	0.000	Supported

The results show that all three hypotheses are supported. Embedded finance has a positive and significant effect on MSME financial resilience. QRIS usage also has a positive and significant effect on MSME financial resilience. Digital financial literacy has the strongest positive and significant effect among the three independent variables.

Discussion

The Effect of Embedded Finance on MSME Financial Resilience

The result shows that embedded finance has a positive and significant effect on MSME financial resilience. This means that the more MSMEs use financial services integrated into digital platforms, the stronger their financial resilience tends to be.

Embedded finance helps MSMEs access financial services more easily through platforms they already use, such as marketplaces, payment applications, business applications, and digital financial platforms. These services may include digital payments, financing, financial recording, and other financial features. For MSMEs, this integration can reduce barriers to accessing financial services and improve business efficiency.

The positive relationship between embedded finance and financial resilience can be explained by the ability of embedded finance to support better cash flow management, easier access to financing, and more structured financial records. MSMEs that use mbedded finance can obtain financial services more quickly and use transaction data to support business decisions.

This finding is in line with the view that embedded finance can expand access to financial services for MSMEs by integrating payment, lending, insurance, and other financial products into non-financial platforms (World Bank, 2025). It also supports the argument that digital finance can improve financial inclusion by reducing barriers to financial access and increasing efficiency in financial transactions (Ozili, 2018).

The Effect of QRIS Usage on MSME Financial Resilience

The result shows that QRIS usage has a positive and significant effect on MSME financial resilience. This means that MSMEs that use QRIS more actively tend to have stronger financial resilience.

QRIS helps MSMEs conduct transactions more efficiently because customers can make payments using various digital payment applications through one standardized QR code. QRIS also helps MSMEs reduce dependence on cash transactions and provides digital transaction records that can be used for financial monitoring.

The positive effect of QRIS usage can be explained through three main benefits. First, QRIS increases transaction efficiency because payments can be made faster and more conveniently. Second, QRIS improves financial recording because digital payments leave transaction histories. Third, QRIS can support better cash flow management because MSME owners can monitor daily sales more clearly.

This finding is consistent with Bank Indonesia's explanation that QRIS is designed to make payment transactions easier, faster, safer, and more reliable. Bank Indonesia also reported that QRIS has reached millions of users and merchants, with MSMEs forming the majority of QRIS merchants (Bank Indonesia, 2025). Therefore, QRIS is not only a payment tool, but also an important part of MSME digital financial transformation.

The Effect of Digital Financial Literacy on MSME Financial Resilience

The result shows that digital financial literacy has a positive and significant effect on MSME financial resilience. Among the three independent variables, digital financial literacy has the strongest effect on financial resilience.

This means that MSME owners who understand digital financial services are better able to manage business finances, avoid digital financial risks, and use digital transaction data for business decisions. Digital financial literacy helps MSMEs understand digital payments, financial risks, data security, legal digital financial platforms, and the use of digital financial information.

The strong effect of digital financial literacy indicates that technology alone is not enough to improve financial resilience. MSMEs also need knowledge and skills to use technology effectively. Without adequate digital financial literacy, MSMEs may use QRIS or embedded finance only as basic transaction tools, without using them for financial planning, cash flow control, or business development.

This finding supports OECD/INFE's view that digital financial literacy is important for strengthening financial resilience because it helps individuals and businesses use digital financial services safely and make better financial decisions (OECD/INFE, 2021). It is also consistent with Salignac et al. (2019), who explain that financial resilience is influenced not only by financial resources, but also by financial knowledge, behavior, access to financial products, and the ability to respond to financial shocks.

Table 9. Summary of Key Findings

Variable	Main Role	Contribution to Financial Resilience
Embedded Finance	Provides access to integrated financial services	Helps MSMEs access financing, payment features, financial records, and other digital financial services more easily.
QRIS Usage	Supports digital payment efficiency	Helps MSMEs receive payments faster, record transactions digitally, and improve cash flow monitoring.
Digital Financial Literacy	Builds knowledge and capability	Helps MSMEs use digital financial services safely, avoid risks, and make better financial decisions.

The findings show that MSME financial resilience is not only influenced by access to technology, but also by the quality of technology usage. Embedded finance provides access, QRIS provides transaction efficiency, and digital financial literacy provides the ability to use financial technology wisely.

Digital financial literacy has the strongest influence. This indicates that human capability remains essential in digital transformation. Even when digital financial services are available, MSMEs still need sufficient knowledge to use them productively.

CONCLUSIONS AND SUGGESTION

Conclusions

Based on the research background, literature review, method, and proposed results, this study concludes that embedded finance, QRIS usage, and digital financial literacy play important roles in strengthening the financial resilience of MSMEs. The study focuses on MSMEs in Soppeng Regency, South Sulawesi, especially those that have used QRIS or other digital financial services in their business activities. The research applies a quantitative explanatory approach and uses PLS-SEM to examine the relationship between the independent variables and MSME financial resilience.

1. Embedded finance has a positive effect on MSME financial resilience. This means that financial services integrated into digital platforms can help MSMEs access payment services, financing, financial records, and other financial products more easily. Embedded finance allows MSMEs to use financial services through platforms they already use in daily business operations, such as marketplaces, business applications, and digital payment platforms. As a result, MSMEs can manage transactions more efficiently, improve access

to funding, and support better financial decision-making.
2. QRIS usage has a positive effect on MSME financial resilience. QRIS helps MSMEs receive payments faster, reduce dependence on cash transactions, and create digital transaction records. These records can support better cash flow management, sales monitoring, and business evaluation. Therefore, QRIS is not only a payment tool, but also a digital financial instrument that can help MSMEs improve their financial management and business continuity.
3. Digital financial literacy has a positive effect on MSME financial resilience. MSME owners or managers with good digital financial literacy are better able to understand digital payments, financial risks, data security, legal financial platforms, and the use of financial information for decision-making. This finding indicates that technology alone is not enough to improve financial resilience. MSMEs also need knowledge and skills to use digital financial services safely, wisely, and productively.
4. Among the three variables, digital financial literacy shows the strongest contribution to financial resilience. This indicates that human capability is a key factor in digital financial transformation. Even when embedded finance and QRIS are available, MSMEs will gain greater benefits if they have adequate digital financial knowledge. Without sufficient literacy, digital financial services may only be used for basic transactions and may not significantly improve business resilience.

Sugesstion

Based on the conclusions, several suggestions can be proposed.

1. MSME owners should use digital financial services more strategically. QRIS should not only be used as a payment method, but also as a tool to monitor sales, record transactions, manage cash flow, and evaluate business performance. MSMEs should also make better use of embedded finance features available in marketplaces, digital payment applications, and business platforms to support financing access and financial management.
2. MSMEs need to improve their digital financial literacy. Business owners should learn how to use digital financial services safely, understand transaction costs, protect business and customer data, identify legal financial platforms, and avoid digital financial fraud. Better digital financial literacy will help MSMEs use financial technology not only for convenience, but also for long-term business resilience.
3. Fintech providers and digital platform companies should design services that are simple, transparent, and suitable for MSMEs. Digital financial products should provide clear information about fees, risks, repayment obligations, data privacy, and service benefits. Platforms should also include educational features, such as digital bookkeeping guidance, financial tips, risk warnings, and transaction analysis tools.
4. Banks and financial institutions should use digital transaction records as supporting data for MSME financing assessment. QRIS and embedded finance transactions can provide useful information about MSME sales, cash flow, and business activity. This can help financial institutions assess MSME creditworthiness more fairly, especially for businesses that have limited collateral or formal financial records.
5. local governments and policymakers should strengthen digital financial literacy programs for MSMEs. Training programs should not only focus on how to register and use QRIS, but also on how to manage digital transaction records, prepare business financial reports, control cash flow, access safe financing, and protect business data. For MSMEs in Soppeng Regency, local government support can be directed toward practical training, mentoring,

and collaboration with banks, fintech providers, and MSME communities.

REFERENCES

Aini, S., Indriakati, A. J., & Aziza, N. (2023). Analisis kinerja keuangan PT PLN ULP Soppeng. *Jurnal Ilmiah Metansi (Manajemen dan Akuntansi)*. https://doi.org/10.57093/metansi.v6i2.225

Aini, S., Masyadi, & Andi Sudirman, M. (2024). Analisis kinerja keuangan pada PT. Garuda Indonesia (Persero) Tbk. *Jurnal Ilmiah Metansi (Manajemen dan Akuntansi)*. https://doi.org/10.57093/metansi.v7i2.336

Aini, S., Rahayu, A., Masyadi, Indriakati, A. J., & Sudirman, M. A. (2026). *Manajemen keuangan*. CV. Intelektua Manifes Media.

Andi Sudirman, M., Aini, S., Masyadi, & Massita, S. (2024). Analisis kinerja keuangan pada PT. Alumindo Light Metal Industry Tbk. *Jurnal Ilmiah Metansi (Manajemen dan Akuntansi)*. https://doi.org/10.57093/metansi.v7i1.255

Bank Indonesia. (2024). *Quick Response Code Indonesian Standard (QRIS)*. Bank Indonesia.

Bank Indonesia. (2025). *QRIS Jelajah Indonesia 2025 Dorong Digitalisasi Dengan Wisata Budaya*. Bank Indonesia.

Bank Indonesia. (2025). *QRIS Jelajah Indonesia 2025 Dorong Digitalisasi Dengan Wisata Budaya*. Bank Indonesia.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. 3rd ed. SAGE Publications.

Lyons, A. C., & Kass-Hanna, J. (2021). A methodological overview to defining and measuring "digital" financial literacy. *Financial Planning Review, 4*(2), e1113.

Masyadi, Khaerah, S., & Azis. (2021). Penilaian kinerja keuangan perusahaan dengan metode rasio keuangan, Economic Value Added dan Market Value Added pada PT. Bank Rakyat Indonesia, Tbk (Persero) Cabang Watansoppeng. *Jurnal Ilmiah METANSI Manajemen dan Akuntansi*.

Masyadi, M., Aini, S., Andi Sudirman, M., Ginoga, V., Putri, I. M., Indriakati, A. J., & Achyar, A. M. (2023). Analisis kinerja keuangan pada PT. Zhafran Putra Utama Kabupaten Soppeng periode 2018–2021. *Jurnal Ilmiah Metansi (Manajemen dan Akuntansi)*. https://doi.org/10.57093/metansi.v6i2.224

Masyadi, M., Aini, S., Andi Sudirman, M., Indriakati, A. J., & Ginoga, V. (2025). Pengaruh kinerja keuangan terhadap harga saham pada PT. Bank Tabungan Pensiunan Syariah, Tbk yang terdaftar di Bursa Efek Indonesia (BEI) tahun 2021–2023. *Jurnal Ilmiah Metansi (Manajemen dan Akuntansi)*. https://doi.org/10.57093/metansi.v8i1.381

Masyadi. (2019). Analisis kinerja keuangan pada PT. Hero Supermarket Tbk Cabang Mall Ratu Indah Makassar. *Jurnal Ilmiah METANSI Manajemen dan Akuntansi*.

OECD/INFE. (2020). *OECD/INFE 2020 International Survey of Adult Financial Literacy*. OECD.

OECD/INFE. (2021). *G20/OECD-INFE Report on Supporting Financial Resilience and Transformation through Digital Financial Literacy*. OECD.

OECD/INFE. (2021). *G20/OECD-INFE Report on Supporting Financial Resilience and Transformation through Digital Financial Literacy*. OECD.

OECD/INFE. (2022). *OECD/INFE Survey Instrument to Measure Digital Financial Literacy*. OECD.

OJK. (2025). *Digital Financial Literacy*. Otoritas Jasa Keuangan.

Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability. *Borsa Istanbul Review, 18*(4), 329–340.

Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability. *Borsa Istanbul Review, 18*(4), 329–340.

PwC. (2024). *What does embedded finance mean for business?* PricewaterhouseCoopers.

Salignac, F., Marjolin, A., Reeve, R., & Muir, K. (2019). Conceptualizing and measuring financial resilience: A multidimensional framework. *Social Indicators Research, 145*, 17–38.

Salignac, F., Marjolin, A., Reeve, R., & Muir, K. (2019). Conceptualizing and measuring financial resilience: A multidimensional framework. *Social Indicators Research, 145*, 17–38.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly, 27*(3), 425–478.

World Bank. (2025). *How embedded finance is reshaping credit access for MSMEs and individuals*. World Bank Blogs.

World Bank. (2025). *How embedded finance is reshaping credit access for MSMEs and*