

Financial Literacy, Fintech Adoption, and the Financial Performance of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia

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ABSTRACT

This study examines the influence of financial literacy and financial technology (fintech) adoption on the financial performance of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia. MSMEs constitute the backbone of the Indonesian economy, yet many continue to face constraints in accessing formal financial services and managing financial resources effectively. Using a quantitative approach with data collected from 150 MSME owners across West Java through a structured questionnaire, this study applies multiple linear regression to test the proposed hypotheses. The results indicate that both financial literacy and fintech adoption have a positive and significant effect on MSME financial performance, with fintech adoption showing a slightly stronger influence. These findings suggest that policies aimed at improving financial literacy and expanding access to digital financial services can meaningfully strengthen the resilience and growth of MSMEs. The study contributes to the growing body of literature on digital financial inclusion in emerging economies and offers practical implications for policymakers, financial institutions, and MSME actors.

Keyword Financial Literacy; Financial Technology; Fintech Adoption; MSME; Financial Performance; Financial Inclusion

Introduction

Micro, Small, and Medium Enterprises (MSMEs) constitute the backbone of the Indonesian economy and play a vital role in promoting economic growth, employment generation, and poverty reduction. According to the Ministry of Cooperatives and SMEs, MSMEs account for more than 99 percent of all business entities in Indonesia and contribute over 60 percent of the national Gross Domestic Product (GDP). Furthermore, the sector absorbs approximately 97 percent of the national workforce, making it a crucial driver of inclusive economic development. Despite their significant contribution, many MSMEs continue to encounter structural and managerial challenges that hinder their long-term sustainability and competitiveness.

One of the most persistent challenges faced by MSMEs is limited financial capability. Many business owners still have insufficient knowledge of financial planning, bookkeeping, budgeting, investment decisions, and credit management. Inadequate financial literacy often leads to poor financial decision-making, inefficient resource allocation, and difficulties in

managing business cash flows. Previous studies have demonstrated that financial literacy is a critical determinant of business success because it enables entrepreneurs to make informed financial decisions, evaluate risks, and improve business performance. MSMEs with higher levels of financial literacy tend to exhibit better financial management practices and achieve stronger financial outcomes compared to those with limited financial knowledge.

In addition to financial literacy, access to financial services remains a major concern for MSMEs in developing countries, including Indonesia. Traditional banking institutions often impose stringent requirements that make it difficult for small businesses to obtain financing. Consequently, many MSME owners continue to depend on informal funding sources, which are often expensive and unreliable. This situation has encouraged the emergence of innovative financial solutions that leverage digital technologies to enhance financial inclusion.

The rapid development of financial technology (fintech) has transformed the financial landscape in Indonesia over the past decade. Fintech services, including digital payments, mobile banking, peer-to-peer (P2P) lending, crowdfunding platforms, and digital investment applications, have expanded access to financial services for underserved populations and business sectors. These innovations offer MSMEs opportunities to conduct transactions more efficiently, access alternative financing, improve financial recordkeeping, and strengthen business operations. As digital transformation accelerates, fintech adoption has become increasingly important for enhancing the competitiveness and resilience of MSMEs in the digital economy.

However, the positive impact of fintech on business performance is not automatic. The effectiveness of fintech utilization largely depends on the capability of entrepreneurs to understand, evaluate, and manage digital financial services appropriately. MSME owners with inadequate financial literacy may face difficulties in selecting suitable financial products, assessing financing risks, or maximizing the benefits of digital financial platforms. Therefore, financial literacy and fintech adoption should not be viewed as separate factors but rather as complementary elements that jointly influence financial performance. Financially literate entrepreneurs are more likely to utilize fintech services effectively, thereby enhancing operational efficiency, financial management, and overall business performance.

Several previous studies have examined the relationship between financial literacy, fintech adoption, and MSME performance. Nevertheless, empirical findings remain inconclusive. Some studies report that financial literacy significantly improves business performance, while others find that its effect varies across business contexts. Similarly, although fintech adoption has been associated with increased business productivity and financial inclusion, evidence regarding its direct impact on financial performance remains

mixed. These inconsistencies indicate the need for further investigation, particularly in regional contexts where MSMEs face diverse economic and technological environments.

West Java represents one of the largest centers of MSME activity in Indonesia, with a substantial number of enterprises operating across various sectors, including trade, manufacturing, services, and creative industries. The province has also experienced rapid growth in digital financial services, making it an appropriate setting for examining how financial literacy and fintech adoption contribute to MSME financial performance. Understanding these relationships is essential for policymakers, financial institutions, and development agencies seeking to strengthen MSME competitiveness and promote sustainable economic growth.

Based on this background, the present study aims to examine the influence of financial literacy and fintech adoption on the financial performance of MSMEs in West Java, Indonesia. Specifically, the study addresses the following research questions: (1) Does financial literacy significantly affect MSME financial performance? (2) Does fintech adoption significantly affect MSME financial performance? and (3) Which factor exerts a stronger influence on MSME financial performance? The findings are expected to contribute to the literature on financial inclusion, entrepreneurial finance, and digital transformation while providing practical insights for policymakers and stakeholders involved in MSME development initiatives.

Literature Review

Financial Literacy

Financial literacy refers to an individual's knowledge, skills, and confidence in managing financial resources to make sound financial decisions. According to the Financial Services Authority of Indonesia (Otoritas Jasa Keuangan/OJK), financial literacy encompasses awareness of financial products and services, the ability to evaluate risks and benefits, and the capability to apply this knowledge in daily financial behavior. Prior studies have consistently found that business owners with higher financial literacy tend to make better investment and financing decisions, manage cash flow more effectively, and demonstrate stronger business resilience during periods of economic uncertainty.

Financial Technology (Fintech) Adoption

Fintech adoption refers to the extent to which individuals or businesses utilize digital financial technologies such as mobile banking, digital wallets, QRIS-based payment systems, and online lending platforms. The Technology Acceptance Model (TAM) developed by Davis (1989) provides a widely used theoretical foundation for understanding fintech adoption, positing that perceived usefulness and perceived ease of use are key determinants of technology

acceptance. In the MSME context, fintech adoption has been associated with improved transaction efficiency, broader market access through e-commerce integration, and easier access to working capital through digital lending channels.

MSME Financial Performance

Financial performance in the MSME context is commonly measured through indicators such as sales growth, profitability, liquidity, and capital adequacy. Financial performance reflects the overall effectiveness of a business in managing its financial resources to achieve sustainable growth. Various studies suggest that financial performance is influenced not only by external market conditions but also by internal managerial capabilities, including the owner's financial knowledge and willingness to adopt supportive technologies.

Hypothesis Development

Based on the theoretical framework and prior empirical findings, the following hypotheses are proposed:

H1: Financial literacy has a positive and significant effect on MSME financial performance.

H2: Fintech adoption has a positive and significant effect on MSME financial performance.

Methods

Research Design and Population

This study employs a quantitative explanatory research design to examine the causal relationship between financial literacy, fintech adoption, and MSME financial performance. The population consists of MSME owners operating in the West Java region, and a purposive sampling technique was used to select 150 respondents who met the criteria of having operated their business for at least one year and having used at least one digital financial service.

Data Collection and Measurement

Primary data were collected through a structured questionnaire distributed both online and offline, using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire consisted of three main constructs: financial literacy (8 items adapted from OJK's financial literacy indicators), fintech adoption (7 items adapted from the Technology Acceptance Model), and financial performance (6 items covering profitability, liquidity, and sales growth). Validity was assessed using Pearson correlation, and reliability was tested using Cronbach's Alpha, with all constructs exceeding the threshold of 0.70.

Data Analysis Technique

Data were analyzed using multiple linear regression with the assistance of statistical software. Prior to hypothesis testing, classical assumption tests were conducted, including normality, multicollinearity, and heteroscedasticity tests, to ensure that the regression model

met the required statistical assumptions. The coefficient of determination (R^2) was used to assess the overall explanatory power of the model, while the t-test and F-test were used to examine partial and simultaneous effects, respectively.

Result and Discussion

Respondent Characteristics

Of the 150 respondents, the majority (58 percent) were female MSME owners, and most businesses operated in the trade and culinary sectors. Approximately 65 percent of respondents had used at least two types of digital financial services, most commonly QRIS-based payment systems and digital wallets, indicating a relatively high level of digital financial engagement among the sampled MSMEs.

Validity, Reliability, and Classical Assumption Tests

All indicators for the three constructs were declared valid, with corrected item-total correlation values above 0.30. Reliability testing produced Cronbach's Alpha values of 0.812 for financial literacy, 0.795 for fintech adoption, and 0.834 for financial performance, confirming that all instruments were reliable. The classical assumption tests indicated that the residuals were normally distributed, no multicollinearity was present among the independent variables (VIF values below 10), and no heteroscedasticity was detected.

Regression Results

The results of the multiple linear regression analysis are summarized in Table 1 below.

Variable	Coefficient (B)	t-value	Sig.	Result
Financial Literacy (X1)	0.312	3.847	0.000	Significant
Fintech Adoption (X2)	0.398	4.512	0.000	Significant
Constant	6.204	-	-	-

The coefficient of determination (R^2) was 0.541, indicating that financial literacy and fintech adoption jointly explain 54.1 percent of the variance in MSME financial performance, while the remaining 45.9 percent is explained by factors outside the model. The F-test result ($F = 86.421$, $p < 0.05$) confirms that the model is statistically significant, meaning that financial literacy and fintech adoption simultaneously affect financial performance.

Discussion

The findings of this study provide empirical evidence that both financial literacy and fintech adoption significantly contribute to the financial performance of MSMEs in West Java,

Indonesia. The results indicate that financial literacy positively affects MSME financial performance ($\beta = 0.312$, $p < 0.05$), thereby supporting Hypothesis 1. This finding reinforces the argument that financial knowledge is a critical resource for entrepreneurs in managing business finances effectively. MSME owners who possess higher levels of financial literacy are generally more capable of preparing budgets, controlling operational expenses, managing debt obligations, evaluating investment opportunities, and making strategic financial decisions. These capabilities ultimately contribute to better financial outcomes and business sustainability.

This result is consistent with the Human Capital Theory, which suggests that knowledge and skills constitute valuable assets that enhance individual productivity and organizational performance. Financial literacy enables entrepreneurs to reduce information asymmetry, improve risk management practices, and increase their ability to respond to changing market conditions. Previous studies have similarly reported that financially literate entrepreneurs tend to exhibit stronger financial management behavior, higher profitability, and improved business resilience. Therefore, enhancing financial literacy remains an important strategy for strengthening MSME competitiveness in increasingly dynamic economic environments.

The study also confirms Hypothesis 2, demonstrating that fintech adoption has a positive and significant influence on MSME financial performance ($\beta = 0.398$, $p < 0.05$). Notably, the coefficient associated with fintech adoption is higher than that of financial literacy, indicating that digital financial technologies may provide more immediate and tangible benefits to business operations. Fintech services facilitate faster and more efficient transactions, simplify financial recordkeeping, expand access to financing, and enable entrepreneurs to reach broader markets through digital platforms. These advantages contribute directly to operational efficiency and revenue generation, which subsequently improve financial performance.

The stronger influence of fintech adoption may reflect the accelerating digital transformation occurring within Indonesia's MSME sector. As business activities become increasingly integrated with digital ecosystems, entrepreneurs who adopt digital financial tools gain greater flexibility and competitiveness. Fintech not only reduces transaction costs but also enhances access to formal financial services that were previously difficult for small businesses to obtain. Consequently, fintech adoption has become a strategic instrument for promoting financial inclusion and improving MSME productivity.

Nevertheless, the findings also suggest that fintech adoption alone is insufficient to guarantee optimal business performance. The effectiveness of digital financial services largely depends on the ability of MSME owners to understand and utilize these technologies appropriately. Entrepreneurs with limited financial literacy may struggle to evaluate financing alternatives, assess financial risks, or manage digital transactions effectively. In this regard,

financial literacy functions as an enabling factor that maximizes the benefits of fintech utilization. The relationship between financial literacy and fintech adoption can therefore be viewed as complementary rather than substitutive, with both factors jointly contributing to improved business outcomes.

From a practical perspective, these findings highlight the need for a more integrated approach to MSME development. Government agencies, financial institutions, fintech providers, and business development organizations should collaborate to design programs that simultaneously enhance financial literacy and encourage fintech adoption. Financial education initiatives should not only focus on basic financial management concepts but also incorporate digital financial competencies that enable entrepreneurs to navigate emerging financial technologies. Likewise, fintech providers should ensure that their services are accessible, user-friendly, and accompanied by adequate educational support to facilitate effective utilization by MSME owners.

Furthermore, policymakers should strengthen financial inclusion strategies by expanding digital infrastructure, improving access to affordable internet services, and providing targeted support for MSMEs operating in underserved areas. Such policies would help reduce barriers to fintech adoption while ensuring that the benefits of digital transformation are distributed more equitably across the MSME sector. By integrating financial literacy enhancement with digital financial inclusion initiatives, stakeholders can create a more sustainable pathway toward improved MSME performance, resilience, and long-term economic growth.

Overall, the findings demonstrate that both financial literacy and fintech adoption are essential determinants of MSME financial performance. While financial literacy provides the knowledge foundation necessary for sound financial decision-making, fintech adoption offers practical tools that enhance efficiency and access to financial services. The combined effect of these factors creates a stronger basis for MSME growth and competitiveness in the digital economy.

Conclusions

This study demonstrates that both financial literacy and fintech adoption have a positive and significant influence on the financial performance of MSMEs in Indonesia, with fintech adoption exerting a slightly stronger effect. Together, the two variables explain more than half of the variance in financial performance, underscoring their importance as key determinants of MSME success in the digital era. These findings suggest that efforts to strengthen MSME financial performance should not rely solely on improving financial knowledge or expanding

digital access in isolation, but rather on integrating both dimensions within a coherent policy framework.

This study is subject to several limitations, including its geographic scope limited to West Java and its reliance on cross-sectional survey data, which restricts causal inference over time. Future research is encouraged to expand the sample to other regions, incorporate longitudinal data, and explore additional variables such as access to formal credit, government support programs, and digital security perceptions to provide a more comprehensive understanding of MSME financial performance in Indonesia.

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