Unlocking MSME Growth in Semarang: The Interplay of Financial Literacy, Financial Technology, and Financial Inclusion

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Abstract. Financial literacy, financial technology, and financial inclusion play a significant role in improving the financial performance of MSMEs in Semarang City. This study aims to analyze the impact of these factors and evaluate the mediating role of financial inclusion in the relationship between financial literacy and financial technology on MSME performance. This research integrates financial literacy, financial technology, and financial inclusion in one framework for MSMEs in Semarang. Using a quantitative method with a survey approach, data were collected from 110 MSME actors registered with the Semarang City Cooperatives and MSME Service and analyzed using SEM-PLS. The results show that financial literacy, financial technology, and financial inclusion positively and significantly affect MSME financial performance. Additionally, financial inclusion mediates the relationship between financial literacy, financial technology, and MSME financial performance. This research highlights the need for improving financial literacy, adopting financial technology, and expanding access to formal financial services to support MSME sustainability and competitiveness.

Keywords: Financial Inclusion, Financial Literacy, Financial Performance, MSMEs, Financial Technology

1 Introduction

Micro, Small, and Medium Enterprises (MSMEs) have an important role in the Indonesian economy, with a significant contribution to Gross Domestic Product (GDP) and job creation. In 2023, MSMEs will contribute 61.07% to Indonesia's GDP and absorb 97% of the workforce, thus emphasizing their role in economic development [1]. Despite their large contribution, MSMEs often face obstacles in accessing resources, especially financial and technological tools, which can limit their worth and sustainability [2].

Semarang City mirrors this national picture but with its own dynamics. Government records show the number of micro and small enterprises in Semarang rose sharply from around 5.9 thousand in 2016 to roughly 30 thousand in 2023, underscoring the city's expanding

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entrepreneurial base. In the same year, the municipality reported 4,006 MSMEs under local coaching programs and 567 active cooperatives supporting the ecosystem [3].

Financial literacy is crucial for making informed financial decisions, especially in managing income, expenses, savings, and investments. It is a process of improving one's knowledge, skills, and confidence in managing finances [4]. With good financial literacy, individuals can make wiser financial decisions and plan effectively according to their needs and personal goals. Financial literacy plays a significant role in enhancing individual welfare by helping people make accurate decisions, especially in saving and managing loans. Therefore, it is not only about understanding financial concepts but also about having the skills and confidence to apply them effectively in daily life [5].

Rapid advances in financial technology (FinTech) have opened up new opportunities for MSMEs to improve their operations. FinTech tools, such as digital payments, online credit platforms, and investment applications, offer innovative solutions that increase financial accessibility and operational efficiency [6]. Even though the level of adoption of this technology is increasing, many MSMEs in Indonesia still face obstacles such as low digital literacy and limited infrastructure that prevent them from taking full advantage of this innovation [7].

Apart from financial and technological literacy, financial inclusion also plays an important role in developing MSMEs. Financial inclusion ensures that MSMEs have access to formal financial services, such as credit, savings, and insurance. This access is very important to support business expansion and increase financial resilience. Even though financial inclusion in Indonesia has made progress, by 2023, only 22.8% of MSMEs will have access to formal banking credit, which shows the need for greater improvement [8].

The interaction between financial literacy, financial technology, and financial inclusion forms a comprehensive framework for improving the financial performance of MSMEs. Financial inclusion can be a link between financial literacy and financial performance by providing tools for MSMEs to apply their financial knowledge effectively. Likewise, financial inclusion can bridge the gap between technology adoption and real benefits for the business world through access to digital financial services [2].

There is a *research gap* in the results of previous research on the relationship between financial literacy, *financial technology*, and financial inclusion on the financial performance of MSMEs. In general, financial literacy and *financial technology* show a positive influence on the development of MSMEs [2, 9, 10, 11, 16]. Business actors who have a good financial understanding and utilize digital payment technology tend to be more successful in managing their businesses. The ability to optimize financial technology allows MSMEs to improve operational efficiency, accelerate transactions, and expand access to more modern financial services. However, the influence of financial inclusion on the performance of MSMEs still shows different results. Some studies showed a positive impact [2, 14, 15, 16, 18], but others found no significant association [19, 20]. This can be caused by low financial literacy and limitations in accessing formal financial services. Therefore, efforts are needed to improve financial education and provide access and supporting infrastructure so that MSMEs are able to utilize financial services to the maximum and remain competitive in the digital era.

This research aims to analyze the influence of financial literacy, financial technology, and financial inclusion on the financial performance of MSMEs in Semarang City. Apart from that, this research also evaluates the role of financial inclusion as a mediator in the relationship between financial literacy, financial technology, and MSME performance. It is hoped that the results of this research can contribute to policy development and provide practical insights to improve the sustainability and competitiveness of MSMEs amidst the ever-growing economic dynamics.

2 Hypothesis Development

This research aims to analyze the relationship between the independent variables, namely financial literacy (X1) and financial technology (X2), on the dependent variable (Y), namely the financial performance of MSMEs. Financial inclusion (Z) acts as a mediating variable that connects financial literacy and financial technology with financial performance.

This framework is designed to explore the extent to which financial literacy and financial technology can influence MSME performance, both directly and through financial inclusion as a link. The focus of the research is directed at MSMEs registered in Semarang City, with the aim of understanding how increasing access to formal financial services and better financial management can increase competitiveness and business sustainability.

2.1 The Influence of Financial Literacy on the Financial Performance of MSMEs

Financial literacy is a key capability that enables business owners to manage their finances effectively through skills such as budgeting, debt management, and financial reporting. Based on the Resource-Based View (RBV) theory [21], financial literacy is a strategic asset that has high value and plays a role in creating a competitive advantage for MSMEs. Several studies highlight that MSMEs with higher financial literacy are better able to make the right financial decisions, increase operational efficiency, and improve their financial performance [9, 10]. In the context of MSMEs in Semarang, a lack of financial literacy often creates challenges in managing resources, thereby limiting growth potential [11].

H1: Financial literacy has a positive and significant effect on the financial performance of MSMEs in Semarang City.

2.2 The Influence of Financial Technology on the Financial Performance of MSMEs

The rapid advancement of financial technology (FinTech) has transformed the financial ecosystem, providing innovative tools such as digital payments, online credit platforms, and financial management applications. These technologies have the potential to streamline MSME operations and reduce costs [6]. Based on the Resource-Based View (RBV) theory, fintech is a strategic resource that can simplify business processes, reduce operational costs, and increase the competitiveness of MSMEs. Thus, the optimal use of *fintech* has the potential to have a sustainable positive impact on the financial performance of MSMEs. FinTech adoption is positively correlated with financial performance [11]. However, obstacles such as low digital literacy and limited infrastructure hinder the optimal use of FinTech solutions among MSMEs [7].

H2: Financial technology has a positive and significant effect on the financial performance of MSMEs in Semarang City.

2.3 The Influence of Financial Literacy on the Financial Performance of MSMEs through Financial Inclusion

The Resource-Based View (RBV) framework identifies financial inclusion as a strategic asset that bridges the relationship between financial literacy and financial performance. By increasing access to formal financial services, MSMEs can apply their financial knowledge

more effectively to improve their operations and achieve better results [12]. Empirical findings emphasize that financial inclusion strengthens the positive impact of financial literacy on financial performance [13].
H3: Financial inclusion mediates the relationship between financial literacy and the financial performance of MSMEs in Semarang City.

2.4 The Influence of Financial Technology on the Financial Performance of MSMEs through Financial Inclusion

From the perspective of the Resource-Based View (RBV), *fintech* is a technology-based strategic resource that increases the efficiency of MSMEs' access to financial services. Financial inclusion plays a key role in strengthening the relationship between *fintech* and MSME performance, enabling businesses to optimize financial data, develop better business strategies, and enter a more modern and inclusive financial system. Financial inclusion also serves as a channel that facilitates the impact of FinTech adoption on financial performance. It allows MSMEs to utilize digital financial tools effectively, increasing access to formal financial services [14]. This relationship is supported by research showing that financial inclusion increases the benefits of technology adoption [2].
H4: Financial inclusion mediates the relationship between financial technology and the financial performance of MSMEs in Semarang City.

2.5 The Effect of Financial Inclusion on the Financial Performance of MSMEs

From the perspective of the Resource-Based View (RBV), financial inclusion is a strategic resource that allows MSMEs to optimize capital, create added value, and strengthen competitiveness. Thus, wider access to financial services can support the growth and sustainability of MSMEs. Financial inclusion ensures that MSMEs can access formal financial services, such as credit and savings, which are important for business expansion and risk management. Increasing financial inclusion leads to improved financial performance among MSMEs [15, 16]. However, challenges such as strict formal credit access requirements limit the participation of many MSMEs in the financial system [8].
H5: Financial inclusion has a positive and significant effect on the financial performance of MSMEs in Semarang City.

Based on the description that has been put forward, a framework of thinking can be built, as shown in the image below:

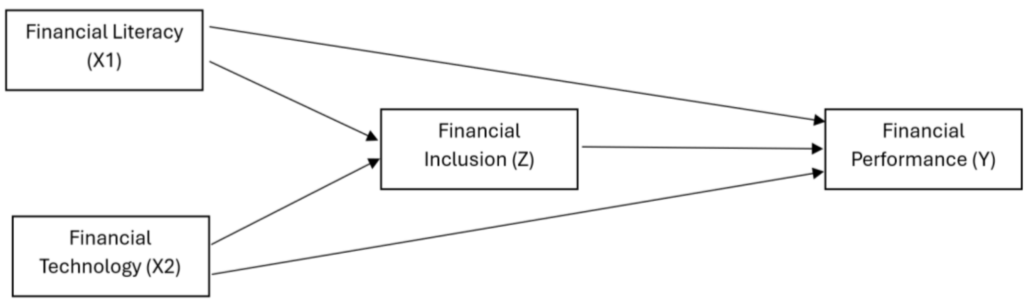

Fig. 1. Research Framework

Source: Author (2025)

3 Method

The population in this study includes all MSMEs in Semarang City who are registered with the Cooperatives and MSMEs Service, with a total of 34,812 business units. Considering the large population, this research used a non-probability sampling method with a purposive sampling technique. This technique allows sample selection based on certain criteria that are relevant to the research objectives, so that the data obtained is more focused and appropriate to the research context. The criteria in this study are MSME actors who have used *financial technology* in running their businesses.

Data was collected by distributing questionnaires online using Google Forms, which were successfully filled in by 110 respondents who met the research criteria. Respondents were grouped based on several categories, such as gender, age, education level, type of business, and length of time using financial technology.

The collected data were then analyzed using inferential analysis methods with the help of SmartPLS version 4.0 software. This approach is used to test the relationships between variables in the research model, as well as to identify significant direct and indirect influences on the variables studied.

Table 1. Indicators

Variable	Indicator	Scale
Financial Literacy	1. Basic financial knowledge 2. Savings and Loans 3. Protection or Insurance 4. Investment [2, 11, 22, 23, 24]	Likert 1-5
Financial Technology	1. Perception of convenience 2. Transaction speed 3. Transaction security 4. Effectiveness 5. Risk [2, 11, 16]	Likert 1-5
Financial Inclusion	1. Access to financial institutions 2. Use of financial institution products 3. Quality of financial institution services 4. MSME welfare through financial services [2, 9, 18]	Likert 1-5
Financial Performance	1. Liquidity 2. Solvency 3. Profitability 4. Business Stability Levels [2, 11, 18, 24]	Likert 1-5

4 Results and Discussion

4.1 Outer Model Test Results

This research uses three criteria analysis techniques with the application SmartPLS 4.0 to assess the outer model, which consists of convergent validity, discriminant validity, and reliability.

Convergent Validity Test. Based on Tables 2 and 3, it can be identified that all indicators are in accordance with the limit provisions of outer loading and value Average Variance Extracted (AVE) on each latent variable >0.5. It can be concluded that the data that has been collected is valid, and there is good convergent validity in all the data.

Table 2. Values Outer Loading

	Financial Literacy	Financial Technology	Financial Inclusion	Financial performance
LK1	0.960			
LK2	0.984			
LK3	0.961			
LK4	0.877			
FT1		0.918		
FT2		0.839		
FT3		0.957		
FT4		0.824		
FT5		0.940		
IK1			0.710	
IK2			0.712	
IK3			0.748	
IK4			0.863	
KK1				0.760
KK2				0.816
KK3				0.797
KK4				0.783

Table 3. Value of AVE

Variable	AVE
Financial Literacy	0.896
Financial Technology	0.806
Financial Inclusion	0.579
Financial performance	0.623

Source: Processed Data, 2025

Discriminant Validation Test. Based on Tables 4 and 5, it can be concluded that the correlation value of each variable with its indicators is greater than the correlation value of the variables with other indicators for each variable. Therefore, all indicators in this study are stated to have good discriminant validity.

Table 4. Values Cross-Loading

	Financial Literacy	Financial Technology	Financial Inclusion	Financial performance
LK1	**0.960**	0.540	0.641	0.747
LK2	**0.984**	0.488	0.614	0.760
LK3	**0.961**	0.466	0.578	0.715
LK4	**0.877**	0.429	0.574	0.668
FT1	0.452	**0.918**	0.399	0.505
FT2	0.473	**0.839**	0.480	0.544
FT3	0.442	**0.957**	0.427	0.508
FT4	0.465	**0.824**	0.484	0.521
FT5	0.440	**0.940**	0.414	0.509
IK1	0.443	0.364	**0.710**	0.500
IK2	0.363	0.338	**0.712**	0.410
IK3	0.477	0.294	**0.748**	0.535
KK4	0.284	0.396	0.491	**0.783**

Table 5. AVE Root Value

Variable	AVE	AVE Root Value
Financial Literacy	0.896	0.947
Financial Technology	0.806	0.897
Financial Inclusion	0.579	0.761

Source: Processed Data, 2025

*Reliability Test***.** Based on Table 6, it can be concluded that all variables in this study have Cronbach's Alpha and Composite Reliability values of more than > 0.7, meaning that all variables in this study are reliable.

Table 6. CA and CR Values

Variable	Cronbach's Alpha	Composite Reliability
Financial Literacy	0.961	0.964
Financial Technology	0.938	0.938
Financial Inclusion	0.758	0.790

Financial Performance	0.815	0.850

Source: Processed Data, 2025

4.2 Inner Model Analysis

*R-squared Test***.** Based on Table 7, it can be explained that the Adjusted R-Square value for the financial inclusion variable is 0.434 or 43.4%, indicating that variations in financial inclusion can be explained by financial literacy and financial technology at 43.4%, while the remaining 56.6% is influenced by factors. Others outside the model. The Adjusted R-Squared value for the financial performance variable is 0.691 or 69.1%, which indicates that financial literacy, financial technology, and financial inclusion together are able to explain 69.1% of the variation in financial performance, with the remaining 30.9% influenced by other variables outside the research model. These results confirm that financial literacy and financial technology have a significant influence on financial performance and a moderate contribution to explaining financial inclusion.

Table 7. Values of R-squared

Variable	R-square	Adjusted R Square
Financial Inclusion	0.445	0.434
Financial Performance	0.699	0.691

Source: Processed Data, 2025

F-Square Test (F^2). Based on Table 8, the average effect size (F^2) value is 0.219, indicating an overall moderate influence of exogenous variables on endogenous variables. Financial literacy has a high influence on financial performance ($F^2 = 0.374$) and financial inclusion ($F^2 = 0.359$), confirming its significant role. In contrast, financial technology has a weak influence on financial performance ($F^2 = 0.073$) and financial inclusion ($F^2 = 0.071$), although it still contributes to supporting the efficiency of digital financial processes. Financial inclusion also has a moderate influence on financial performance ($F^2 = 0.219$), confirming its role in increasing MSMEs' access to formal financial services. These results show that financial literacy and inclusion have a greater contribution than financial technology to the performance of MSMEs, so it is necessary to strengthen education and digital access to maximize the impact of financial technology.

Table 8. Effect Size Values

Variable	F^2
Financial Literacy (X1) – Financial Performance (Y)	0.374
Financial Technology (X2) – Financial Performance (Y)	0.073
Financial Literacy (X1) – Financial inclusion (Z)	0.359
Financial Technology (X2) – Financial inclusion (Z)	0.071
Financial inclusion (Z) – Financial Performance (Y)	0.219

Average	0.219

Source: Processed Data, 2025

Q-Square Test (Q^2). Based on Table 9, the Q^2 prediction value for the financial inclusion variable is 0.421 and for financial performance is 0.614, both of which are classified as strong predictive relevance. This shows that the research model has good capabilities in predicting financial inclusion and the financial performance of MSMEs in Semarang City. With high predictive validity, this model is able to accurately describe the relationship between variables, especially in the context of the influence of financial literacy, financial technology, and financial inclusion on MSME performance.

Table 9. Value Predictive Relavance

Variabel	Q^2 predict
Financial Inclusion (Z)	0.421
Financial Performance (Y)	0.614

Source: Processed Data, 2025

Direct Effect Test. Direct hypothesis testing is carried out by analyzing the original sample value, T-statistics, and p-value to determine the direction, strength, and significance of the influence between variables. With a confidence level of 95% and an error rate of 5%, the hypothesis is accepted if the T-statistic> 1.660 and p-value < 0.05, indicating a significant effect. Analysis using the bootstrapping method with SmartPLS 4.0 ensures valid and reliable results, providing a strong basis for evaluating the relationships between latent variables in this research.

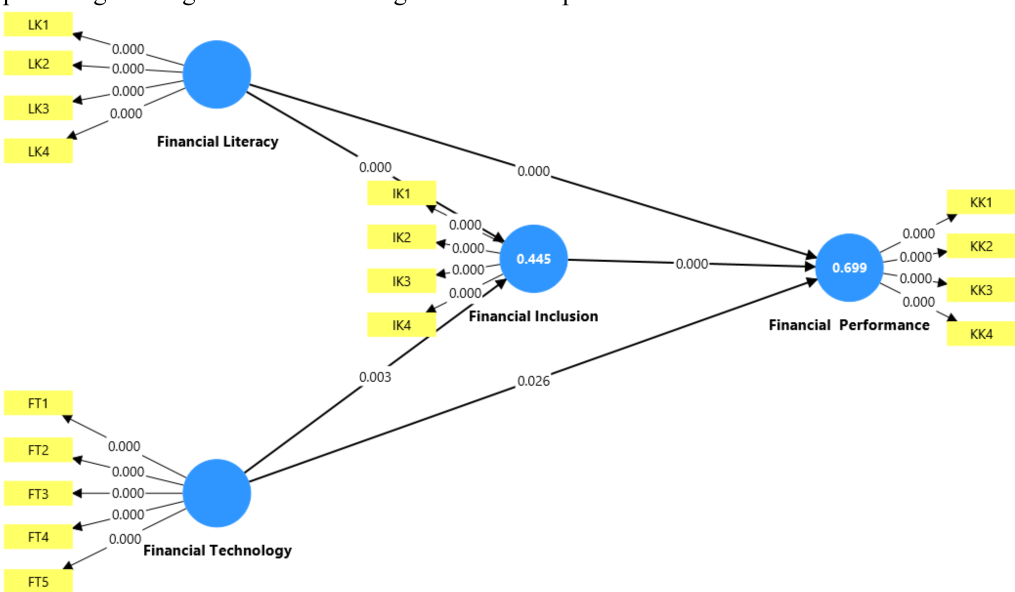

Fig. 2. Bootstrapping Models
Source: Processed Data, 2025

Based on the model output using the boostrapping method in Figure 2, the direct effect path coefficient test results are as follows:

Table 10. Direct Effect Test

Variable	Original sample	T statistics	P values	Result
Financial Literacy – Financial Performance	0.455	3.929	0.000	H1 is supported
Financial Technology – Financial Performance	0.178	2.220	0.026	H2 is supported
Financial Literacy – Financial Inclusion	0.519	7.536	0.000	
Financial Technology – Financial Inclusion	0.231	2.996	0.003	
Financial Inclusion – Financial Performance	0.345	3.726	0.000	H3 is supported

Source: Processed Data, 2025

These results indicate that financial literacy, financial technology, and financial inclusion have a significant positive influence on the financial performance of MSMEs.

Indirect Effect Test. Indirect hypothesis testing analyzes the influence between variables through mediating variables, using the original sample value, T-statistics, and p-value from the indirect effect analysis. The hypothesis is accepted if the T-statistic> 1.660 and the p-value < 0.05, indicating a significant indirect effect. With the bootstrapping method using SmartPLS 4.0, this test ensures that the research model is able to reveal complex relationships, including the role of mediation, accurately and reliably.

Table 11. Indirect Effect Test

Variable	Original sample	T statistics	P values	Result
Financial Literacy – Financial Inclusion – Financial Performance	0.179	3.119	0.002	H4 is supported
Financial Technology – Financial Inclusion – Financial Performance	0.080	2.561	0.010	H5 is supported

Source: Processed Data, 2025

These results show that financial inclusion significantly mediates the influence of financial literacy and financial technology on financial performance.

4.3 The Effect of Financial Literacy on Financial Performance

The results of direct tests using the bootstrapping method with SmartPLS 4.0 show that financial literacy has a significant influence on the financial performance of MSMEs in Semarang City.

This is indicated by the positive original sample value, T-statistic above 1.660, and P-value below 0.05, which indicates that financial literacy plays an important role in improving the performance of MSMEs. In accordance with the Resource-Based View (RBV) theory, financial literacy is a valuable resource for MSMEs because it helps business actors manage budgets, record cash flows, and manage finances efficiently to increase competitiveness and profitability.

Financial literacy is measured through indicators such as basic financial knowledge, the ability to prepare a budget, and cash flow management skills. With good literacy, MSMEs can increase operational efficiency, manage funds in a more focused manner, and reduce the risk of errors in financial management. This research is in line with previous findings, which show that financial literacy contributes significantly to the financial performance of MSMEs, supporting business actors in preparing effective financial plans to achieve optimal results [2, 9].

However, this research also highlights the importance of external support, such as access to formal financial services, ongoing training, and adequate infrastructure, so that financial literacy can have a more optimal impact. A holistic approach involving financial inclusion policies and infrastructure support is needed to maximize the potential of financial literacy in improving the financial performance of MSMEs. With an integrated strategy, MSMEs in Semarang City can achieve better and more sustainable business growth.

Overall, this study emphasizes that financial literacy is an important element in improving the financial performance of MSMEs, especially MSMEs in Semarang City. However, successful implementation requires a holistic approach that involves various external aspects, such as financial inclusion policies, infrastructure support, and ongoing training programs. With an integrated strategy, MSMEs in Semarang City are expected to be able to maximize the potential of financial literacy to achieve better financial performance, support business growth, and maintain the sustainability of their business in the midst of economic challenges.

4.4 The Influence of Financial Technology on Financial Performance

Direct test results show that financial technology (Fintech) has a significant influence on the financial performance of MSMEs in Semarang City. This is proven by the positive original sample value, T-statistic above 1.660, and P-value below 0.05. Fintech makes it easier for MSMEs to access financial services, speed up transactions, and expand markets through efficient digital technology. Based on the Resource-Based View (RBV) theory, Fintech is a valuable external resource that can help MSMEs overcome limited financial access, increase productivity, and support business sustainability.

The use of Fintech allows MSMEs to manage financial transactions more practically, monitor cash flow, simplify accounting processes, and increase operational efficiency. This technology also opens up opportunities for market expansion through digital platforms and helps MSMEs respond more quickly to consumer needs. Previous research, such as that conducted by [2] and [11], supports these findings by showing that Fintech facilitates access to digital financial services and improves financial management.

Overall, Fintech has proven to be a strategic tool for improving the performance and competitiveness of MSMEs in the digital era. However, to maximize the benefits, increasing digital literacy, infrastructure development, and ongoing assistance are needed. This approach will ensure that MSMEs can use financial technology optimally to increase business growth and survive in increasingly tight market competition.

4.5 The Effect of Financial Literacy on Financial Performance through Financial Inclusion

The results of indirect tests using the bootstrapping method in SmartPLS version 4.0 show that financial literacy has a significant influence on the financial performance of MSMEs through financial inclusion as a mediating variable. The bootstrapping method is carried out by taking repeated samples (resampling) from the original data to calculate the T-statistic and P-value. The results show that the original sample value is positive, the T-statistic is higher than 1.660, and the P-value is below 0.05, which proves that this indirect relationship is significant. Thus, the hypothesis is accepted, indicating that financial literacy has a positive impact on financial performance when mediated by financial inclusion.

From the perspective of the Resource-Based View (RBV) theory, financial literacy as an internal resource produces optimal impacts if supported by external elements, such as financial inclusion. Financial inclusion allows MSMEs to access formal financial services, such as financing, savings, and digital payments, which improves the efficiency of fund management and operational productivity. The bootstrapping process strengthens these findings by providing reliable statistical estimates, confirming that financial inclusion plays a strategic role as a link between financial literacy and the financial performance of MSMEs.

This research is consistent with previous findings by [12] and [13], who also use a similar method to show that financial inclusion significantly mediates the relationship between financial literacy and MSME financial performance. Steps are needed to maximize the benefits of financial literacy, such as financial training for MSMEs, simplifying procedures for accessing formal financial services, and developing relevant financial products. With integrated policy support, financial literacy can contribute optimally to improving the performance and sustainability of MSME businesses.

4.6 The Influence of Financial Technology on Financial Performance through Financial Inclusion

The results of indirect tests using the bootstrapping method with SmartPLS 4.0 show that financial technology (Fintech) has a significant influence on the financial performance of MSMEs through financial inclusion as a mediating variable. The bootstrapping method is carried out by taking random resamples to calculate the T-statistic and P-value, which produces a positive original sample value, a T-statistic above 1.660, and a P-value below 0.05. These results prove that Fintech has a positive impact on the financial performance of MSMEs with the support of adequate financial inclusion, which allows MSMEs to access financing, savings, and digital payment systems more widely and efficiently.

From the Resource-Based View (RBV) perspective, Fintech as an internal resource must be balanced with the use of the external environment, such as financial inclusion, to produce an optimal impact. Financial inclusion is a link that makes it easier for MSMEs to gain access to formal financial services, monitor cash flow, and support sustainable business growth. The combination of Fintech and financial inclusion enables MSMEs to increase productivity, operational efficiency, and competitiveness in the market. This is also supported by previous research, such as [14] and [17], which found that financial inclusion significantly mediates the relationship between Fintech and MSME financial performance.

This research emphasizes the importance of financial inclusion as a supporter in maximizing the benefits of financial technology. So that the impact is more optimal, collaboration is needed between the government, financial technology providers, and related parties to increase MSME access to formal financial services through supportive policies, digital training, and infrastructure development. With these steps, Fintech can contribute significantly to the sustainability and growth of MSME performance.

4.7 The Effect of Financial Inclusion on Financial Performance

Based on the results of direct tests using the bootstrapping method with SmartPLS 4.0, it shows that financial inclusion has a significant effect on the financial performance of MSMEs, with positive original sample values, T-statistics higher than 1,660, and P-value <0.05, so hypothesis H5 is accepted. Financial inclusion is a strategic resource that helps MSMEs obtain business capital, manage liquidity, and increase operational efficiency from a Resource-Based View (RBV) perspective.

Formal financial services, such as business credit, savings, and digital payment systems, play an important role in the stability and growth of MSMEs. With wider access to these services, MSMEs can manage their finances more regularly, increase operational efficiency, and obtain financing for business development. Financial inclusion also helps MSMEs face challenges such as working capital needs and business expansion. This finding is consistent with previous research from [2], [14], and [18], who also found a positive relationship between financial inclusion and MSME performance.

Overall, financial inclusion is not only a supporter but is a main factor in increasing the competitiveness and sustainability of MSMEs in Semarang City. Therefore, concrete steps are needed, such as financial education, simplifying financial service procedures, and developing financial products that suit the needs of MSMEs. With this strategy, it is hoped that MSMEs can improve their financial performance and survive and develop sustainably in the face of future economic challenges.

4 Conclusion and Recommendation

The results of research on MSMEs in Semarang City show that financial literacy and financial technology (Fintech) have a positive and significant influence on the financial performance of MSMEs. The better understanding business actors have in managing finances, the more effective they will be in utilizing financial resources, while the use of Fintech helps increase operational efficiency and access to formal financial services. In addition, financial inclusion acts as a mediating variable, where financial literacy and Fintech indirectly improve MSME performance through increasing access to financial services. Access to wider formal financial services allows MSMEs to manage funding better, increase business stability, and encourage significant business growth.

MSMEs should enhance financial literacy through training and education, utilize Fintech for operational efficiency, and expand access to formal financial services. The government and relevant institutions should strengthen the financial inclusion ecosystem by reducing administrative barriers and increasing public awareness of formal financial services. Further research is recommended to explore other factors, such as business innovation or policy support.

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