

Crafting The Msmes' Performance Into Financial Literacy, Financial Inclusion, And Fintech In Emerging Countries

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Abstract

The informal sector in Indonesia in terms of Micro, Small and Medium Enterprises (MSMEs) plays an important role in economic development from macro and micro aspects. The majority of SME owners are aware of the value of a number of strategies for conducting business more effectively. Some of the primary strategies for maintaining MSMEs' performance include financial inclusion, financial literacy, and fintech. The objectives aimed at by this investigation were: to study the impact of financial inclusion and financial literacy on MSMEs' performance, to observe the influence of mediation effect fintech on financial inclusion and MSMEs' performance, and to examine how the fintech supports financial literacy and SME performance. A well-structured questionnaire using a quantitative research approach was utilized to gather data from 320 owners among Indonesia MSMEs. The finding research revealed that fintech contributed positively and significantly mediates the relationship between financial inclusion, financial literacy, and MSMEs' performance. The research's findings aim to shed light on how to develop and promote fintech through providing services that are fair and transparent.

Keywords: *Fintech; financial inclusion; financial literacy; MSMEs' performance and Indonesia.*

1. Introduction

Undoubtedly, MSMEs are frequently regarded as the engines of global expansion, creation of jobs, and human development, especially among developing countries (Gherghina et al., 2020; Lubis & Irawati, 2022). Similar circumstances also exist in Indonesian MSMEs which stated by Indonesian Coordinating Ministry for Economic Affairs, MSMEs are essential to fostering economic growth (2022), including higher employment and poverty reduction (Nursini, 2020; Shofawati, 2019). Despite their substantial contributions, MSMEs encounter numerous obstacles and constraints. Research revealed that MSMEs face significant challenges due to changes in technology, a lack of capital, restricted access to resources, particularly finance, access barriers to business information, and inadequate technological capability (Chouki et al., 2020; Rao et al., 2023). Owners of MSMEs require a particular set of capabilities to succeed and establish a competitive position in today's volatile business environment. Exploring factors and mechanisms that can help SME performance, particularly in emerging markets, is therefore urgently needed (Ying et al., 2019).

Knowledge-based view (KBV) is becoming more popular as the importance of knowledge resources in enhancing organizational performance is becoming more widely

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acknowledged (Grant, 1986). KBV essentially suggests ways to improve an organization's performance. Researchers and practitioners discovered an extensive amount of dynamic knowledge resources through the interaction of KBV that can affect organizational performance (Kulathunga et al., 2020; Soto-Acosta et al., 2016). Nevertheless, a lot of those studies focused on large organizations, while MSMEs performance received little attention (Agyei, 2018). Hence, MSMEs discover it challenging to focus on the most effective knowledge-based resources to improve their performance. In this study, our aim is to examine three possible knowledge-based resources, namely financial inclusion, financial literacy, financial technology (fintech), and their significant in MSMEs performance.

Due to the fact that having access to formal financial services enables quick and secure financial transactions, financial inclusion has recently gained recognition on a worldwide basis as essential to sustainable development (Tram et al., 2023). However, it appears that only advanced economies enjoy these advantages as much of the population in developing nations does not have access to the formal financial system. The development of financial inclusion and financial literacy are challenges for Indonesia as an emerging economy. After the pandemic, government involvement through the financial services authority, encouraging greater financial inclusion and financial literacy, has accelerated up the recovery of the economy (The Financial Services Authority, 2023). Therefore, encouraging financial inclusion offers important and engaging policy challenges for developing economies.

Some researchers have pointed to financial inclusion as one of the solutions for the development of MSMEs globally (Eton et al., 2021; Oshora et al., 2020). An extensive study revealed that financial inclusion is an essential component of economic growth due to widespread citizen participation in a variety of economic activities through numerous small and medium business start-ups (Ina Ibor et al., 2017; Isukul & Tantua, 2021; Sanistasya et al., 2019). Some researchers have pointed to financial inclusion as one of the solutions for the development of MSMEs globally. Thus, financial inclusion is significant in supporting MSMEs growth.

Similarly, the importance of financial literacy is has begun to pay more attention in both developing and developed economies. This is because of how it influences financial decision-making. A lack of financial literacy among people worldwide has resulted in business failure, according to studies on the effect of financial literacy on performance in terms of profitability and growth of MSMEs (Tuffour et al., 2022). Despite the significance of small businesses in numerous economies, the majority of the significant studies conducted thus far have mainly concentrated on personal finance issues, leaving a gap in the analysis of how financial literacy among managers influences the performance of small-scale enterprise (Jabbouri & Farooq, 2021). Hence, financial literacy may lead to improved firm management which in turn enhances firm growth.

A paradigm shift in the financial and business sectors is brought about by financial technology (Fintech). According to the literature, fintech is a dynamic concept that is changing as more technology entrepreneurs enter the market and shape and adapt it to meet social needs (Lontchi et al., 2023). Moving has become more challenging for Indonesian MSMEs due to the pandemic, disruption, and globalization. Indonesian MSMEs are anticipated to be able face this challenge by enhancing innovation in their products and services, developing their human resources and technology, and expanding their marketing areas (Hamdana et al., 2022). Consequently, business organizations need knowledge that is more specific to manage the volatile market conditions that arise with the technological revolution including MSMEs (Kulathunga et al., 2020). Several empirical studies have linked Fintech adoption from the perspective of individual users in Indonesia (Firmansyah et al., 2021; Setiawan et al., 2021). However, it still draws little attention to MSMEs, even though SMEs significantly contribute to the Indonesian economy. The potential benefits of adopting Fintech for SMEs need to unleash to support sustainable business growth in the

digital era (Nugraha et al., 2022). The relatively low adoption of Fintech for Indonesian MSMEs is the motivation for this research.

Based on the prior study, financial literacy has a positive and significant impact on how well MSMEs management performs. These studies also revealed that financial literacy is necessary to obtain capital and that access to capital has a significant impact on a company's success. Less attention has been given to the importance of digitization in terms of SME performance, which could increase the amount of money that companies acquire through online banking, online savings, and online trading. Understanding how a manager's financial literacy affects his ability to use digital funds for business purposes is important (Eniola & Entebang, 2017). As a result, the goal of this study was to present empirical data on the level of knowledge and usage of digital platforms among managers of MSMEs. The study's final objective was to use fintech to mediate the relationship between financial literacy and MSMEs performance.

Furthermore, although the drivers behind a MSME's adoption of technology are still unknown, evidence indicates the fact that many employ technologies in some form (Caniëls et al., 2015; Khalifa et al., 2021). Numerous studies (Hamdana et al., 2022; Lontchi et al., 2023; Shofawati, 2019) that examined into the effect of FinTech on the performance of MSMEs discovered a positive and significant relationship between the predecessor and outcome variables. Yet, financial inclusion has not been formally identified as a driving force behind a MSMEs adoption of new technology. The absence of finance literature that examines financial inclusion as a factor in small businesses' adoption of new technologies is most notable (Agyekum et al., 2022). Due to this knowledge gap, we investigated the possibility that SMEs' adoption of new technologies might have unintended effects on their financial inclusion. Therefore, the study introduced the mediating effect of FinTech on financial inclusion and MSMEs' performance.

The rest of the paper is organised as follows: The next section discusses the theoretical and hypotheses development of the study while section 3 covers the research methods used for the study. Section 4 details the data used in this study. The discussion and conclusions are contained in sections 5 and 6, respectively.

2. Literature Review and hypotheses development

An organizational learning management concept known as the knowledge-based view (KBV) offers businesses strategies to achieve a competitive advantage (Barney, 2007; Grant, 1986). Employee involvement in the formulation and management of the business' operational goals and long-term transformation goals is increased to gain a competitive advantage (Wernerfelt, 1995). The KBV provides strategies that businesses can use to gain a competitive edge and perform better. It makes the argument that tacit and collective knowledge are crucial resources for enhancing organizational performance. However, little focus has been given to the significance of MSMEs knowledge-based resources and their function in SMEs sustainable performances in the growing literature on MSMEs performance. Conversely, Hussain et al., (2018) investigated the impact of knowledge resources on the performance of MSMEs and concluded that knowledge resources, such as financial inclusion and financial literacy, help MSMEs to sustain their performance.

2.1 Financial Inclusion and MSMEs' Performance

Potential macro-finance benefits of increased MSME financial inclusion (FI) include economic growth, increased employment, reduction of poverty, effectiveness of macroeconomic policy, and macro-financial stability (Blancher et al., 2019). Access to capital is crucial for the development and expansion of MSMEs, and growth and productivity are positively correlated with the presence of external financing. The importance of finance in enhancing SMEs' performance is emphasized in a lot of recent economics research (Thatsarani & Jianguo, 2022). Financial inclusion could be measured as access to financial services from one aspect, as the community must participate in the economic system to improve its welfare (Eton et al., 2021). More frequently, FI is vital for

encouraging MSMEs expansion and significant employment growth (Ina Ibor et al., 2017). Consequently, it would result in both short-term and long-term economic benefits (Oshora et al., 2020). Based on the evidence of a strong link presented earlier between financial inclusion and SME performance. We hypothesized that:

Hypothesis 1. Financial Inclusion is positively related to MSMEs' performance

2.2 Financial Literacy and MSMEs Performance

The importance of financial literacy has been emphasized by several scholars. For instance, only 29.66% of Indonesian society was financially literate, according to the results of the national financial literacy survey conducted in 2016 (Susan, 2020). While some decisions can be made based on experience, age, and other factors, other decisions are complex and require financial literacy: knowledge, awareness, skills, and attitude toward proper financial management to achieve performance outcomes (Bongomin et al., 2017; Khasanah & Irawati, 2022). Studies that have been conducted on the importance of financial literacy on performance in terms of profitability and growth of MSMEs concluded that a low level of financial literacy among people around the world has led to business failure (Tuffour et al., 2022). Hence our second hypothesis:

Hypothesis 2. Financial Literacy is positively related to MSMEs' performance

2.3 FinTech and MSMEs Performance

The most important effects on SMEs, according to research on the relationship between fintech and SMEs, were the promotion of payment transactions, customer satisfaction, and financial management convenience (Kulathunga et al., 2020). MSMEs obtain from fintech because it automatically records sales transactions and gives them weekly or monthly sales reports so they can monitor their company performance (Chouki et al., 2020). The impact of fintech on financial performance and manufacturing efficiency during the 4.0 revolution was studied by Dhiaf et al. (2022). The results demonstrate that the performance of fintech companies on the market is directly correlated with their manufacturing efficiency. Furthermore, Hamdana et al.'s findings (2022) demonstrate that using social media (information technology) enhances SMEs' performance in areas including competitiveness and reputation. Based on the preceding discussion, the study suggests the following hypothesis:

Hypothesis 3. FinTech is positively related to MSMEs performance

2.4 The Links between financial Inclusion, FinTech and MSMEs performance

According to the description, research was conducted on understanding financial inclusion which a major determinant in the development of SMEs (Rasheed et al., 2019). Where financial inclusion is a process that guarantees easy access to the availability and use of a formal financial system that offers equal opportunity to access MSMEs financial services. However, there is a dearth of research on the influence of financial inclusion on fintech and the influence of financial inclusion on MSMEs' performance, with indicators that are not yet specific. Furthermore, Fintech provides benefits for MSMEs in terms of easy access to financial services, inseparable from an important factor, namely financial inclusion. Yet, financial inclusion itself does not always enhance MSMEs' performance. Similarly, Eton et al. (2021) emphasizes the missing link between financial inclusion and MSMEs performance and the role of fintech is needed to encourage the growth of MSMEs. Thus, this study is interested in examining the effect of financial inclusion on MSMEs' performance with fintech as a mediating variable. Hence our fourth and fifth hypotheses:

Hypothesis 4. Financial inclusion has a positive effect on fintech.

Hypothesis 5. Fintech mediate the relationship between MSMEs financial inclusion and performance

2.5 The Links between financial literacy, fintech, and MSMEs' performance

The link between financial literacy and fintech practices received scarce research attention. However, the effectiveness of an fintech depends on the financial literacy of the organization (Frimpong et al., 2022). Higher financial literacy allows managers to foresee the economic changes and to identify the risks involved with those changes. Therefore, it is essential to have a higher financial literacy to link organizational strategies, cost strategies, accounting practices, and organizational performance with fintech (Kulathunga et al., 2020). According to Eniola and Entebang's research (2017) which emphasizes the necessity of managerial knowledge, which is reflected in financial literacy, wherein MSMEs' low knowledge, awareness, and attitudes may influence their business decisions, which can have consequences on how well they perform. Other research suggests that ease in utilizing digital financial services must ensure that MSME actors have a good understanding of financial literacy (Susan, 2020). There is a need to understand how a manager's level of financial literacy may affect his ability to access digital funds for a business. Therefore, the study investigates how fintech influences the link between financial literacy and SME performance. Hence, we proposed the following hypotheses:

Hypothesis 6. Financial literacy has a positive effect on fintech.

Hypothesis 7. Fintech mediate the relationship between MSMEs financial literacy and performance

The hypothesized relationships and the variables are shown in Figure 1

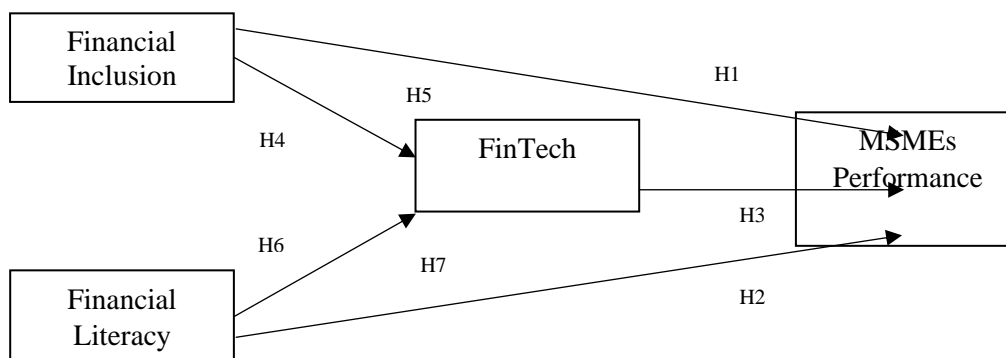


Figure 1. Conceptual Framework

3. Methodology

3.1 Sample Design and Data Collection

The current study adopted the use of quantitative research design to establish the mediating effect of fintech in the relationship between financial inclusion, financial literacy, and performance of SMEs in developing economies. Thus, to test the hypotheses set under this study, data were collected from 320 MSMEs located in Malang, Indonesia. This is justified by the fact that MSMEs in the region of Malang significantly contribute to the growth of the local economy. Additionally, the local government promotes financial inclusion, fintech acceleration, and MSMEs' financial literacy.

In this research, we employed structured questionnaire to collect data. Questionnaire surveys allow examining the views of a large number of people who are geographically scattered. Furthermore, a questionnaire survey is an effective way of gathering information when an attitude, perception, or belief is the subject of interest (Robinson, 2018). It is also the most straightforward method for determining what users need in terms of information. Proportional probability sampling method was used to select MSMEs for this study. Data

were collected from a total of 320 MSMEs located in Malang region. Before the main study, the questionnaire was doing pilot test with 30 MSMEs' owner. Finally, we gathered information from 390 MSMEs. Six questionnaires in total were found to be invalid due to missing data on crucial variables; as a result, 320 valid surveys made up the final sample for analysis. This indicates effective response rate of 82.5%. As a result, the response rate for the current study is very good.

The profile of the sample was as follows: when considering the industry sector, the highest percentage (48%) of firms were from the tempeh chips sector, while 39% and 5% of firms represented the bread and cake and furniture sectors, respectively. When considering the gender, the majority (68%) of the respondents were male, while 32% were female. Almost 92% of MSMEs were operating for over 10 years, while 4.4% of MSMEs were established for 6–10 years. On the other hand, 4.4 % of the MSMEs were newly established business (see Table 1).

Table 1 Profile of the sample

	Frequency	Percentage
Industrial sector		
Tempe chips	154	48%
Bread and cake	124	39%
Ceramics	9	3%
Pottery	4	1%
Racket	11	3%
Furniture	15	5%
Rattan	3	1%
Gender		
Female	102	32%
Male	218	68%
Age		
1-5 years	14	4.4%
6-10 years	14	4.4%
>10 years	292	91.2%

Source: Author's calculation

3.2 Measurement of Variables

To achieve the objectives of our study, we used four variables, which were measured using items adapted from past studies. All items were modified so as to suit the Indonesian context and were measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

The financial inclusion measure were adapted from study of Beck and Demirguc-Kunt (2006). Financial literacy was measured using Tuffour et al. (2022). The mediating variable, fintech was measured using Ozili (2018). Similarly, financial literacy is adapted from Tuffour et al. (2022). Finally, The MSMEs' performance construct consisted of financial performance and operational performance were adapted from (Al-Matari et al., 2014; Lontchi et al., 2023)

4. Data Analysis

For predicting the structural model and measure the measurement model, the study employs Smart PLS (Henseler et al., 2015). Using Smart PLS is supported by the following reasons: (1) PLS software assists research maximize the predictive relevance of independent constructs while maintaining more construct indicators; (2) the non-normal distribution shown in (Chin, 1998); (3) the software performs well when the sample size is small; and (4) it is able to handle complex models (mediation and moderation paths).

4.1 Validity and Reliability Assessments

This study utilizes Smart PLS to evaluate the convergent validity of the indicator's outer loading, factor loading, composite reliability, and average variance extracted (AVE). According to Table 2, the loading values for every item were all higher than 0.70 (Hair et al., 2017). On the other hand, every construct had a composite reliability value higher than 0.7 (Chin, 1998). According to Hair et al.(2018), the value of AVE was greater than 0.50.

Table 2. Measurement Model

Constructs					
	Items	Loadings	CA	CR	AVE
Financial Inclusion	FI1	0.788	0.913	0.928	0.590
	FI2	0.779			
	FI3	0.730			
	FI5	0.701			
	FI6	0.770			
	FI7	0.738			
	FI8	0.829			
	FI9	0.798			
	FI10	0.772			
	Financial Literacy	FL1			
FL2		0.706			
FL3		0.783			
FL4		0.678			
FL5		0.674			
FL6		0.678			
FL7		0.712			
Financial Technology	FT2	0.763	0.869	0.916	0.577
	FT3	0.738			
	FT4	0.773			
	FT5	0.773			
	FT6	0.759			
	FT12	0.733			
	FT13	0.774			
	FT14	0.766			

Table 2. Measurement Model-Continued

Constructs					
	Items	Loadings	CA	CR	AVE
Organizational Performance	OP1	0.757	0.894	0.917	0.613
	OP2	0.772			
	OP3	0.691			
	OP4	0.727			
	OP5	0.711			
	OP6	0.767			
	OP7	0.799			
	OP8	0.628			
	OP9	0.579			
	OP10	0.658			

Notes: CA= Cronbach's Alpha; CR = Composite Reliability; AVE = Average Variance Extracted.

Another test that verifies and confirms the appropriateness of the measurement tool is discriminant validity. Testing the Fornell and Larcker criterion is required. Inferring that

the items were discriminant, Table 3 shows that the bolded values on the diagonals were higher than those in their corresponding rows and columns. The Heterotrait-Monotrait (HTMT) ratio is an additional sophisticated test to validate the discriminant validity. The values in parentheses in Table 3 indicate that they satisfy the HTMT.85 criterion because they are less than 0.90. Thus, this study's discriminant validity is achieved.

Table 3. Fornell Larcker and HTMT Ratio

	FI	FL	FT	OP
FI	0.768			
FL	0.677 (0.770)	0.716		
FT	0.721 (0.785)	0.637 (0.717)	0.760	
OP	0.602 (0.657)	0.537 (0.618)	0.782 (0.854)	0.783

4.2 Structural Model

Figure 2 and Table 4 show a positive relationship between FI and FT ($\beta_1 = 0.623$, $t = 12.069$, $p < 0.001$), denoting that H1 is supported. In contrast, FI insignificantly impacts OP ($\beta_2 = 0.058$, $t = 0.994$, $p > 0.001$), invalidating H2. Furthermore, FL positively affects FT ($\beta_3 = 0.274$, $t = 4.510$, $p < 0.001$), confirming that H3 is supported. However, FL reveals insignificantly influences OP ($\beta_4 = 0.043$, $t = 0.829$, $p > 0.001$), denoting that H4 is not supported. Moreover, FT positively impacts OP ($\beta_5 = 0.713$, $t = 15.296$, $p < 0.001$), which means H5 is supported.

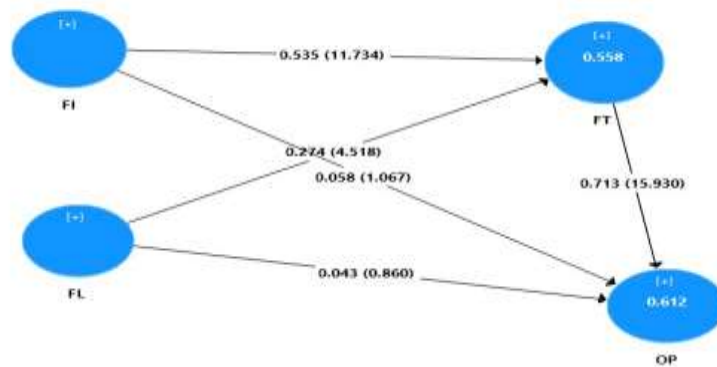


Figure 2 Structural Model Result. FI: Financial Inclusion; FL: Financial Literacy; FT: Financial Technology; OP: Organizational Performance.

Table 4 Structural Model Results

H	Relationship	Beta	t-Value	p-Value	R ²	f ²	Decision
H1	FI → FT	0.535	12.069	0.000	55.8%	0.353	Supported
H2	FI → OP	0.058	0.994	0.321		0.004	Unsupported
H3	FL → FT	0.274	4.510	0.000		0.093	Supported
H4	FL → OP	0.043	0.829	0.407		0.002	Unsupported
H5	FT → OP	0.713	15.296	0.000	61.2%	0.582	Supported

The strength of the model is indicated by the effect size (f^2) of predictor constructs on the specific criterion, which shows how these variables are interconnected and how it simultaneously predicts the dependent constructs (76). Effect sizes are categorized as weak, average, and substantial for constructs recording f^2 values of 0.02, 0.15, and 0.35, respectively (79). According to Table 4, FI on FT and FT on OP were substantial. Meanwhile, other construct effects, namely FI on OP, FL on FT, and FL on OP, were small. According to Cohen, R^2 values between 0.02 and 0.13 are regarded as weak, 0.13 and 0.26 are regarded as moderate, and values above 0.26 are regarded as substantial. Table 4 denotes that R^2 of FT and OP were 55% and 61.2%, respectively. As a result, it appears that FT has a substantial effect in producing the explained variance for OP.

4.3 Testing Mediation Effects

The approach explained in Hayes and Preacher (2014) was used to estimate the mediation effect of FT between FI, FL, and OP. Given a beta value of 0.382 and a t-value of 9.050, table 5 demonstrates how indirectly FI impacts GI. The indirect effect of FL on GI, meanwhile, has a t-value of 4.665 and a beta value of 0.196, respectively. According to Hair et al.'s (2013) recommendations, the variance accounted for (VAF), that determines the indirect effect size concerning the total effect was calculated. In this study, the VAF = direct effect/total effect, which has a value of $0.382/0.535 = 0.714$, the mediation effect of FT accounts for 71.4% of the FI effect on OP. Meanwhile, the VAF value of 0.715, indicating that 71.5% of the FL effect on OP is explained via the existence of the mediation effect of FT. The authors conclude that KM partially mediates this relationship given that the VAF is greater than 20% but less than 80%, and hence H5 and H6 are supported.

Table 5 Indirect Effect Results

H	Relationship	Std-B	T-Value	p-Value	Confidence Interval		Decision
					2.5%	97.5%	
H5	FI→FTOP	0.382	9.050	0.000	0.298	0.462	Supported
H6	FL→FTOP	0.196	4.665	0.000	0.121	0.283	Supported
Variance Accounted For (VAF) of the Mediator Variable for FT							
IV	Mediator	DV	Indirect Effect	Total Effect	VAF (%)	Type	
FI	FT	OP	0.382	0.535	71.4	Partial	
FL	FT	OP	0.196	0.274	71.5	Partial	

Note: IV: Independent Variable, DV: Dependent Variable, FI: Financial Inclusion, FL: Financial Literacy, FT: Financial Technology, OP: Organizational Performance.

5. Discussion

The aim of our research was to investigate the role finance inclusion and financial literacy in MSME performance. We used PLS-SEM to investigate the direct and indirect (via fintech variable) effect of financial inclusion and financial literacy on MSMEs' performance. Furthermore, we examined the direct influence of financial inclusion and financial literacy on Fintech of the MSMEs. The conceptual framework and the seven hypotheses that were developed with a comprehensive literature review formed the study's framework.

Questionnaire development, sample selection, data collection, and analysis were done using scientific methods. The results show that both financial and financial literacy do not have a positive effect on performance. In contrast, both financial inclusion and financial literacy indicated have a significant effect on performance. Furthermore, Fintech was observed as having a partial mediation effect on the relationship between financial inclusion and performance as well as the relationship between financial literacy and performance. Fintech also positively influenced performance.

The insignificant influence of financial inclusion on MSMEs' performance is congruent with the results of Blancher et al. (2019) and Agyekum et al. (2022), who revealed a negative impact of financial inclusion on MSMEs' performance. The findings of Thathsarani and Jianguo (2022) and Eton et al. (2021) are not supported by these results. A company's ability to survive depends on its ability to raise money. However, when the total supplementary funds, which may include internal or external financial capital, are insufficient, there are limitations in the fund-obtaining process that cover facilitation, speed, and credit service quality, as well as a minimum frequency of obtaining funds for MSMEs, consequently financial access will not have an impact on business performance (Rita & Huruta, 2020).

This study also reveals that there is a fintech mediation role in the relationship between financial inclusion and MSMEs' performance. Based on the premise of the resource-based perspective, when financial capital is added, then available financial resources for entrepreneurs will increase (Thathsarani & Jianguo, 2022), so that it can improve the firm's performance. However, there is another variable that can increase the finance inclusion of performance, which is entrepreneurial competence. According to Tuffour et al. (2022) and Wijaya and Suasih (2020), the entrepreneur has a special ability to identify opportunities, acquire resources, seize opportunities, and organize a series of inputs to become valuable. The availability of heterogeneous resources owned by a company does not automatically guarantee a firm's success, but the ability is needed to manage and collaborate resources in an innovative, risky, and proactive way to achieve superior performance (Irwin et al., 2018).

The findings also indicated fintech positively and significance mediates the relationship between financial literacy and MSMEs' performance. This finding implies that MSMEs were better able to improve their operational and financial performance when they were knowledgeable about recent financial innovations and used them to raise the quality of their goods and services. Additionally, it suggests that MSMEs can use financial literacy as a channel for fintech services to enhance performance. Therefore, MSME should be familiar with the various financial technology solutions to their performance using fintech services.

6. Conclusions and Implications

The study concludes that fintech is an essential mechanism through which financial inclusion and financial literacy influence MSMEs' operational and financial performance in Indonesia. It is also concluded that knowledge of various financial technology solutions by Indonesian MSMEs significantly promotes their performance. Therefore, fintech becomes an essential channel through which financial inclusion and financial literacy can trigger MSMEs' performance in Indonesia. Thus, the study has provided empirical evidence to the literature regarding the mediating role of fintech on the relationship between financial inclusion, financial literacy, and MSMEs' performance.

Additionally, the findings of this study have provided practical implications for MSMEs to leverage financial literacy and financial inclusion in terms of access to finance solutions through fintech to improve their performance. It is therefore recommended that MSMEs should generate owners' knowledge, skill, and behaviour on financial management solutions to improve their performance. Furthermore, policies to promote the inclusion of MSMEs in the formal financial systems of emerging countries should consider key firm attributes at the micro-enterprise level. Since the study is only focused on Indonesia, extrapolating the results to other South-East Asian (SEA) nations may be challenging. Therefore, to generalize the findings, future research should conduct a cross-country analysis of this sort.

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