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FINANCE

Financial Inclusion and Financial Technology in SMEs: Investigating the Mediating Role of Risk Perception on Business Performance

Divia Lasasyauma Purnasalam[1,*], Embun Suryani[2]
University of Mataram, Indonesia[1,2]
Corresponding e-mail: diviasyauma2003@gmail.com[*]

ABSTRACT

Purpose: This study examines the impact of financial technology and financial inclusion on the performance of small and medium-sized enterprises (SMEs) in the creative economy sector with risk perception serving as a mediating variable.

Method: Data collection was conducted through surveys and questionnaire distribution to participants. The study involved a sample of 130 SMEs operating in the creative sector on Lombok Island that utilize financial technology in their businesses. A combination of purposive and accidental sampling techniques was employed. The data were analyzed using structural equation modeling with the partial least squares (SEM-PLS) approach.

Result: The findings reveal that financial technology has no significant impact on risk perception, while financial inclusion demonstrates a significant effect. Similarly, financial technology does not significantly influence SME performance, whereas financial inclusion has a substantial impact. Risk perception exhibits only a minor effect on SME performance. Furthermore, risk perception does not mediate the relationship between financial technology and SME performance, nor does it mediate the relationship between financial inclusion and SME performance.

Practical Implications for Economic Growth and Development: This study highlights the importance of financial inclusion in enhancing SME performance, suggesting that greater access to financial services can drive economic growth by improving business efficiency and market competitiveness. Furthermore, it emphasizes the need for policies that foster financial inclusion to support sustainable development in the creative economy sector.

Keywords: *financial technology, financial inclusion, SMEs performance, risk perception*

INTRODUCTION

In Indonesia, small and medium-sized enterprises (SMEs) represent a critical economic pillar, playing a vital role in strengthening the national economy. The Indonesian Chamber of Commerce and Industry (KADIN, 2023) predicts that the number of SMEs will reach 66 million by 2023, reflecting a 1.52% increase from 2022. SMEs account for 99% of total business actors in Indonesia, employing approximately 117 million workers, which represents 97% of the country's total workforce. Moreover, SMEs contribute around 61% to the formation of Indonesia's Gross Domestic Product (GDP). Among these, the creative economy sector plays a significant role in supporting the Indonesian economy (Pancawati & Widaswara, 2023).

The Minister of Cooperatives and SMEs has identified the creative economy as a superior economic sector, with innovation and creativity as its main pillars (Pancawati & Widaswara, 2023). However, the adoption of digital practices among creative economy actors remains limited, with only 20.45% utilizing digitalization in their business operations (Dyah, 2021). This underscores the need for continued innovation and digital transformation within the sector. Adopting technology-driven business models can enhance SME performance, particularly in the creative economy (Radicic & Petković, 2023).

SME performance reflects the outcomes achieved by businesses in their operational activities and indicates how effectively and efficiently they meet their goals. Performance can be evaluated through various indicators, including sales growth, capital growth, profit growth, market expansion, and increased employment opportunities (Yasrawan & Herawati, 2022). Performance measurement can be approached through both financial and non-financial metrics. Financial performance captures the profits generated by a business within a specific period, while non-financial performance evaluates achievements linked to a business's vision and strategy (Anindyastri et al., 2022).

Several factors influence SME success, encompassing internal and external elements. Internal factors include human resource management, marketing strategies, product innovation, operational efficiency, and employee skills, all of which contribute to business growth. External factors, such as economic conditions, government policies, market dynamics, technological advancements, and sociopolitical variables, also significantly affect SME sustainability (Agus et al., 2023). SMEs' confidence in their growth motivates them to adopt modern technologies, particularly financial technology, to align with evolving market demands (Hamidah et al., 2020).

Financial technology, as a blend of digital technology and financial services, introduces innovative financing models. Indicators of financial technology include convenience, effectiveness, knowledge, and interest (Akib et al., 2022). It facilitates business activities by providing easy access to financial services, streamlining transactions, and ensuring financial transparency, all of which contribute to improved operational efficiency and SME performance (Hamidah et al., 2020).

Financial inclusion, on the other hand, ensures that financial services are accessible to all societal segments, fostering economic development. Its dimensions include quality, access, welfare, and usage (Yanti, 2019). Microfinance institutions (MFIs) play a crucial role in supporting SMEs by providing access to financial services, such as loans, credit unions, and cooperatives (Suryani et al., 2021). Effective financial inclusion enables SMEs to make strategic financial decisions, which are essential for improving performance (Bachtiar, 2024).

Risk perception, defined as the uncertainty faced by individuals in achieving desired outcomes, also influences SME performance in the adoption of digital financial services (Puryatama & Dewi, 2023). Indicators of risk perception include time, privacy, financial, security, social, and performance risks (Achadi et al., 2021). A high level of trust in financial technology can mitigate these risks, thus enhancing SME performance (A'la, 2021).

While prior research has explored the effects of financial technology and financial inclusion on SME performance, most studies focus on their direct impacts or analyze these variables independently (Bachtiar, 2024; Mali, 2023; Muzdalifa et al., 2018; Rozalinda & Kurniawan, 2023; Sari & Widodo, 2022; Yanti, 2019). Limited research examines the mediating role of risk perception, particularly within the creative economy sector.

This study addresses this gap by focusing on SMEs in Lombok's creative economy sector, offering fresh insights into how financial inclusion and technology influence SME performance. Unlike previous studies that analyze the broader SME sector, this research concentrates on the unique characteristics of Lombok's creative industries.

The purpose of this study is to examine how financial technology and financial inclusion affect SME performance, with risk perception as a mediating factor. By investigating these relationships, the study provides a deeper understanding of how financial inclusion and technology contribute to SME success and the role of risk perception in shaping these interactions. The findings offer practical insights for businesses and policymakers in designing effective strategies to promote financial technology adoption and expand financial inclusion among SMEs, particularly in the creative economy sector.

METHOD

The methodology employed in this study is quantitative, utilizing surveys and participant questionnaire distribution as primary data collection techniques. Due to the unknown size of the population in this study, it was not possible to predict the exact number of samples that would meet the predetermined criteria. Consequently, a sample of 130 SMEs operating in the creative industries on Lombok Island was selected. The sampling techniques included both accidental and purposive sampling, focusing on SMEs that integrate financial technology into their operations. Data were collected through a questionnaire utilizing a 5-point Likert scale to capture respondents' perceptions.

The data were analyzed using the structural equation modeling with partial least squares (SEM-PLS) approach. Two models, the internal and external models, were employed to assess the research findings, with data analysis conducted using the SmartPLS software. Convergent validity was evaluated using the average variance extracted (AVE), which must exceed the threshold value of 0.50. Construct reliability was assessed using Cronbach's alpha and composite reliability, with a cutoff value of 0.70 or higher. The structural model's explanatory power was evaluated using the adjusted R-squared value.

Table 1. Variable Measurements

Variables	Codes	Statements
Financial Technology (Akib et al., 2022)	FT.1	The use of financial technology makes it easier for me to run my business activities.
	FT.2	Financial technology features are easy to access and use.
	FT.3	Financial technology helps me improve my business performance.
	FT.4	Utilizing financial technology can speed up the completion of financial transactions.
	FT.5	I know and understand financial technology.
	FT.6	I have used or am currently using one type of financial technology (e.g., online loans, digital payments, investment, etc.).
	FT.7	I am very interested in introducing financial technology into my business.
	FT.8	I am interested in customizing financial technology to suit the specific needs of my business.
Financial Inclusion (Yanti, 2019)	FI.1	I am able to utilize credit financing well.
	FI.2	Maximum use of funds can support the successful continuity of the business I run.
	FI.3	I have experienced equal access to finance.
	FI.4	Financial service products are of good quality and are accessible to all business actors.
	FI.5	I already feel prosperous with unlimited access to financial products and services.
	FI.6	I feel there has been economic improvement with equal access to financial services.
SME Performance (Yasrawan & Herawati, 2022)	SP.1	The business capital I receive is consistently increasing.
	SP.2	Many prospective employees apply to work at the business I run.
	SP.3	Every year, I add new employees.
	SP.4	My customers come not only from Indonesia but also from abroad.

Variables	Codes	Statements
Risk Perception (Achadi et al., 2021)	RP.1	I feel worried about the security of my personal data when using fintech services.
	RP.2	The risk of privacy breaches makes my business less likely to utilize fintech.
	RP.3	I feel unsafe when conducting financial transactions through digital platforms.
	RP.4	Security breaches in financial technology can impact the smooth operation of my business.
	RP.5	I feel that it takes a long time to learn how to use digital financial services.
	RP.6	I feel that the time spent using financial technology is not worth the benefits gained.
	RP.7	I am worried that the digital financial product does not deliver the performance that I expect.
	RP.8	The financial technology system experiences frequent disruptions that can hinder the operational performance of my SME.
	RP.9	I feel that the cost of financial technology services, such as transaction or administration fees, is too high for my business.
	RP.10	I feel the use of digital financial services may cause unexpected financial expenses.
	RP.11	The use of financial technology by SMEs in my neighborhood influences my decision to use it as well.
	RP.12	I feel that the use of digital financial products may reduce my social status in my group.

Source: Developed by the authors (2024)

Hypotheses Development

Financial Technology on Risk Perception

Risk factors can influence both positive and negative attitudes, ultimately affecting the level of trust SMEs place in financial technology (Saputro & Setyaningrum, 2019). Elevated risk perception typically leads to diminished trust, while lower perceived risks foster greater trust. This relationship aligns with the Theory of Planned Behavior (TPB), which posits that the use of financial technology can enhance an individual's sense of behavioral control. Specifically, those who adopt financial technology gain easier access to financial transactions, thereby reducing their perceived risk (Leniwati et al., 2021).

H1: Financial technology negatively affects risk perception.

Financial Inclusion on Risk Perception

A user-friendly financial system encourages individuals to adopt it, as it can reduce risk perception by fostering comfort and confidence in using the system. According to the Theory of Planned Behavior (TPB), decisions regarding the use of financial services often involve perceived risks, which can affect individuals' willingness to access these services. Shahzadi and Abbas (2024) suggest that improving financial behavior is key to enhancing financial inclusion, as it can alleviate concerns related to potential risks.

H2: Financial inclusion has a positive effect on risk perception.

Financial Technology on SMEs Performance

According to Muzdalifa et al. (2018), financial technology refers to the integration of technology in the development of financial solutions. The Theory of Planned Behavior (TPB) suggests that an individual's beliefs influence their behavior when utilizing technology (Afrianty, 2021). By adopting financial technology, SMEs can streamline their business strategies and expedite financial transactions, which, in turn, can enhance SME performance.

H3: Financial technology has a positive effect on SME performance.

Financial Inclusion on SMEs Performance

Financial inclusion plays a crucial role in facilitating the business processes of SMEs (Mali, 2023). The Theory of Planned Behavior (TPB) highlights the importance of financial inclusion in the decision-making process (Irmawati, 2021). Business owners must consider various factors when making decisions to achieve desired outcomes, and by incorporating these elements, they can reduce risks and optimize opportunities, ultimately enhancing SME performance (Fitriani & Hwihanus, 2023).

H4: Financial inclusion has a positive effect on SMEs performance.

Risk Perception on SMEs Performance

The Theory of Planned Behavior (TPB) suggests that high perceptions of risk associated with using financial technology can influence decision-making, thereby affecting SME performance. Research by A'la (2021) indicates that a lower perception of risk leads to higher levels of trust in technology. Widyayanti (2020) further argues that the benefits of financial technology for SMEs include facilitating non-cash transactions, making these processes more efficient and ultimately improving business performance.

H5: Risk perception has a positive effect on SMEs performance.

Financial Technology on SMEs Performance Mediated by Risk Perception

The growth and sustainability of SMEs can be supported by financial technology; however, businesses must also consider the risks associated with its use (Firdayanti et al., 2024). A person's confidence in adopting financial technology is significantly influenced by their perception of risk (A'la, 2021). According to Wardani and Sari (2021), high risk perception reduces the willingness to adopt financial technology as a payment method. Inadequate use of financial technology for payments can negatively impact the performance and operational efficiency of SMEs. This aligns with the Theory of Planned Behavior (TPB), which suggests that as risk perception increases, SMEs' interest in using financial technology as a payment method may diminish.

H6: Risk perception mediates the relationship between financial technology and SMEs performance.

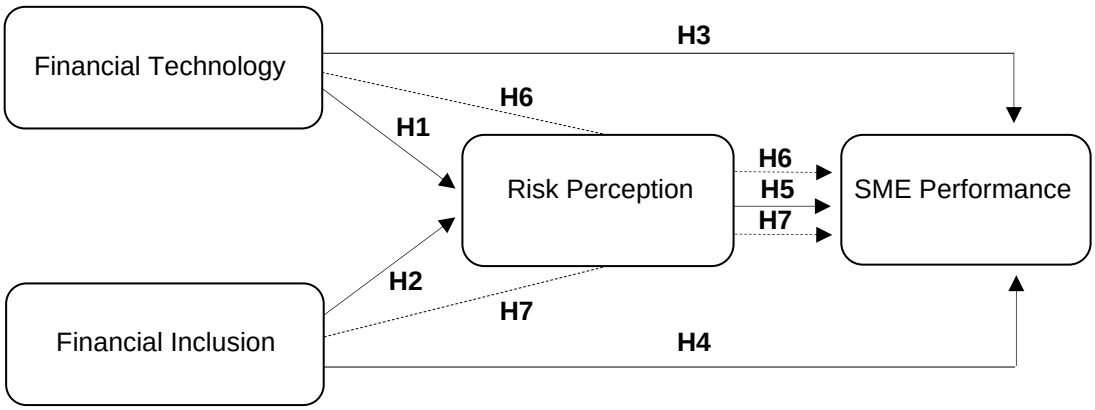
Financial Inclusion on SMEs Performance Mediated by Risk Perception

Easy access to finance plays a crucial role in supporting the sustainable growth of SMEs (Hilmawati & Kusumaningtias, 2021). Financial inclusion enables business actors to leverage financial services offered by financial institutions, and when these services are perceived as low-risk, they can increase confidence in using financial products. This, in turn, fosters better decision-making and contributes to business growth (Gunawan et al., 2023; Bachtiar, 2024). This aligns with the Theory of Planned Behavior (TPB), which posits that business actors' belief in financial inclusion influences their interest in utilizing financial services. Additionally,

their decisions are shaped by their perception of risk, which ultimately impacts SME performance.

H7: Risk perception mediates the relationship between financial inclusion and SMEs performance.

Figure 1. Research Framework



Source: Developed by the authors (2024)

RESULT AND DISCUSSION

Convergent Validity

According to Dewi et al. (2022), convergent validity evaluates whether the indicators of a construct correlate sufficiently and accurately measure the intended concept. An indicator is considered reliable if its outer loading value exceeds 0.70. The results of the convergent validity analysis are presented in Table 2 below.

Table 2. Convergent Validity Result

Item	Financial Technology (X1)	Financial Inclusion (X2)	SMEs Performance (Y)	Risk Perception (Z)
FT.1	0.71			
FT.2	0.72			
FT.3	0.76			
FT.4	0.76			
FT.5	0.78			
FT.6	0.81			
FT.7	0.73			
FT.8	0.72			
FI.1		0.81		
FI.2		0.77		
FI.3		0.75		
FI.4		0.84		
FI.5		0.80		
FI.6		0.86		
SP.1			0.81	
SP.2			0.82	
SP.3			0.86	
SP.4			0.81	

Item	Financial Technology (X1)	Financial Inclusion (X2)	SMEs Performance (Y)	Risk Perception (Z)
RP.1				0.77
RP.2				0.85
RP.3				0.83
RP.4				0.75
RP.5				0.87
RP.6				0.79
RP.7				0.86
RP.8				0.88
RP.9				0.83
RP.10				0.85
RP.11				0.73
RP.12				0.87

Source: Processed data (2024)

Based on Table 2 above, all indicators of the research variables exhibit outer loading values exceeding 0.70, indicating acceptable convergent validity. These findings confirm the validity and appropriateness of the indicators, demonstrating that they adequately measure their respective constructs and are suitable for further research.

Average Variance Extracted (AVE)

Table 3 presents the AVE (Average Variance Extracted) values. The results of the SEM-PLS analysis show that the AVE values for the variables of financial technology, financial inclusion, SME performance, and risk perception all exceed the threshold of 0.50. An AVE value greater than 0.50 indicates that the convergent validity of the model is adequate (Syauqi et al., 2023).

Table 3. Average Variance Extracted (AVE)

Variable	Average Variance Extracted (AVE)
Financial Technology	0.56
Financial Inclusion	0.65
SMEs Performance	0.68
Risk Perception	0.68

Source: Processed data (2024)

Construct Reliability

Table 4 presents the Cronbach's alpha and composite reliability values. A variable is considered reliable if its composite reliability and Cronbach's alpha values exceed 0.70 (Hair et al., 2014). As shown in Table 4, all variables have values greater than 0.70, indicating that each variable is both reliable and valid. This suggests that the indicators for each variable effectively measure the constructs and yield consistent results.

Table 4. Cronbach's Alpha and Composite Reliability

Variable	Cronbach's Alpha	Composite Reliability (rho_c)
Financial Technology	0.89	0.91
Financial Inclusion	0.89	0.92
SME Performance	0.84	0.89
Risk Perception	0.96	0.96

Source: Processed data (2024)

R-Square Test

Table 5 presents the adjusted R-squared value, which is used to assess the quality of the model. According to Hair et al. (2011), the R-squared value is categorized as follows: 0.25 is considered poor, 0.50 is moderate, and 0.75 is strong. This classification helps in determining the explanatory power of the model and its ability to account for variations in the dependent variables.

Table 5. Adjusted R-square

Variable	R-square Adjusted
SMEs Performance	0.51
Risk Perception	0.27

Source: Processed data (2024)

With an adjusted R-squared of 0.51, the SME performance variable in this study is categorized as moderate, indicating that the independent factors account for 51% of the variance in SME performance. This suggests that while other factors outside the model explain the remaining 49% of the variation, the model effectively captures a significant portion of the variance. In contrast, the risk perception variable, with an adjusted R-squared of 0.27, is classified as weak, as the independent variables only account for 27% of the variation in risk perception. This implies that a considerable 73% of the variation in risk perception is influenced by factors not included in the model, limiting its explanatory power.

Hypotheses Testing

Direct Effect

Table 6 presents the results of the statistical test for direct impacts. For Hypothesis 1 which examines the effect of financial technology on risk perception, the path coefficient is -0.05 with P values of 0.65. This indicates that financial technology does not significantly affect risk perception, and as a result, H1 is accepted. In contrast, for Hypothesis 2,which explores the relationship between financial inclusion and risk perception, the path coefficient is 0.57 with P values of 0.00, indicating a significant positive impact. Therefore, H2 is supported. The analysis of Hypothesis 3 which assesses the influence of financial technology on SME performance reveals a path coefficient of 0.08 and P values of 0.46. This suggests a weak relationship between financial technology and SME performance, leading to the rejection of H3. For Hypothesis 4 which investigates the effect of financial inclusion on SME performance, the results show a path coefficient of 0.59 with P values of 0.00, signifying a strong and significant relationship. Thus, H4 is supported. Finally, the test for Hypothesis 5 examining the impact of risk perception on SME performance yields a path coefficient of 0.12 with P values of 0.10. Given the lack of significant correlation between risk perception and SME performance, H5 is rejected.

Table 6. Direct Effect Test

Direction	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Conclusion
FT → RP	-0.05	-0.04	0.10	0.45	0.65	Accepted
FI → RP	0.57	0.57	0.12	4.75	0.00	Accepted
FT → SP	0.08	0.09	0.11	0.74	0.46	Rejected
FI → SP	0.59	0.59	0.10	6.19	0.00	Accepted
RP → SP	0.12	0.12	0.07	1.63	0.10	Rejected

Source: Processed data (2024)

Mediating Effect

Table 7 presents the results of the statistical test for indirect effects. The findings for Hypothesis 6 which examines whether risk perception mediates the relationship between financial technology (X1) and SME performance (Y) show a P value of 0.73 and a path coefficient of -0.01. These results indicate that risk perception does not mediate the relationship between financial technology and SME performance, leading to the rejection of H6. Similarly, the test results for Hypothesis 7 which investigates the mediation of risk perception in the relationship between financial inclusion (X2) and SME performance (Y) yield a P value of 0.16 and a path coefficient of 0.07. These findings suggest that risk perception does not significantly mediate the relationship between financial inclusion and SME performance, resulting in the rejection of H7.

Table 7. Mediating Effect Test

Direction	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Conclusion
FT → RP → SP	-0.01	-0.01	0.02	0.35	0.73	Rejected
FI → RP → SP	0.07	0.07	0.05	1.40	0.16	Rejected

Source: Processed data (2024)

Discussion

The findings of this study reveal several key insights regarding the relationships between financial technology, financial inclusion, risk perception, and SME performance. First, the results suggest that financial technology has a detrimental and insignificant effect on risk perception. This may be attributed to the high levels of trust that SMEs have in adopting financial technology, which reduces their perception of the associated risks. As Desita and Dewi (2022) note, increased confidence in technology leads to a decrease in perceived risks. Additionally, limited understanding of financial technology among business actors may contribute to the low level of risk perception, as SMEs do not perceive the risks involved in its use. These findings align with the research of Chandra and Kohardinata (2021), Puryatama and Dewi (2023), and Palesta and Paramita (2024), all of whom found no significant relationship between financial technology and risk perception.

Moreover, financial inclusion is shown to have a significant and positive impact on risk perception. In regions with a high financial inclusion index, such as NTB (82.34%), business actors benefit from greater access to financial services, which fosters trust in financial institutions. This increased confidence subsequently reduces their perception of financial risk. The study's findings corroborate the works of Shahzadi and Abbas (2024), Abdu and Badara (2021), and Foguesatto et al. (2024), which highlight the positive influence of financial inclusion on alleviating concerns regarding financial risks.

In terms of SME performance, the study finds that financial technology has a positive, but not significant, effect. While financial technology provides benefits, such as easier transactions and improved access to capital, its impact on SME performance is limited due to a lack of financial literacy among business actors. This aligns with findings from Gunawan et al. (2023), Ernawati et al. (2024), Kartawinata et al. (2020), and Sumami and Prasetya (2022), who observed similar results in their studies, indicating that while financial technology can enhance SME performance, the effect is not strong enough to be statistically significant.

On the other hand, financial inclusion demonstrates a significant positive effect on SME performance. Access to finance enables business actors to overcome capital constraints, facilitating business operations and contributing to performance improvement. This finding supports the work of Mali (2023), Ranti and Sartika (2024), Bachtiar (2024), Fomum and Opperman (2023), and Gunawan et al. (2023), all of whom have shown that financial inclusion is a crucial factor in enhancing SME performance.

Risk perception, while positively affecting SME performance, was found to have an insignificant impact. Although good risk management can enhance SME performance by improving operational efficiency and decision-making, not all business actors possess effective risk management strategies. This inconsistency in risk perception management leads to a lack of significant effects on performance. These results align with studies by Buchdadi and Sholeha (2020), Jusriawan et al. (2024), and Priyantoro et al. (2023), who similarly reported that risk perception has a limited influence on SME performance.

Furthermore, the study reveals that risk perception does not mediate the relationship between financial technology and SME performance. The direct benefits of financial technology, such as enhanced access to business-related information and the ability to monitor financial conditions, provide a direct path to improved SME performance without the need for risk perception to act as a mediator. These findings are supported by Syauqi et al. (2023), who argue that financial technology enables SMEs to bypass traditional barriers to finance, thereby directly impacting performance. Additionally, research by Marina and Hadiprajitno (2024) suggests that risk-taking behavior can weaken the relationship between digital technology adoption and SME performance.

Lastly, the role of risk perception as a mediator in the relationship between financial inclusion and SME performance was found to be negligible. Despite its potential role as a mediating variable, risk perception does not significantly influence the connection between financial inclusion and SME performance. Business actors with strong financial knowledge and access to financial resources tend to perform well regardless of their risk perception. This finding aligns with the research of Marina and Hadiprajitno (2024), who found that risk perception marginally weakens the relationship between financial inclusion and SME performance. Furthermore, Carina et al. (2023) found that sound financial knowledge can mitigate risk perception, thereby enhancing SME performance.

CONCLUSION

This research aims to explore the influence of financial technology and financial inclusion on the performance of small and medium enterprises (SMEs) in the creative economy sector with a focus on risk perception as a potential mediator. The findings of the study reveal that financial technology does not significantly influence risk perception, while financial inclusion does have a notable effect on it. Additionally, neither financial technology nor risk perception directly impacts SME performance, whereas financial inclusion demonstrates a significant influence on improving SME performance. Moreover, risk perception was not found to mediate the relationship between financial technology and SME performance, nor was it a mediator between financial inclusion and SME performance.

These findings highlight that although financial technology does not directly impact SME performance, financial inclusion plays a crucial role in enhancing SME performance. This underscores the importance of providing SMEs with broader access to financial services, which can support their growth and enable them to achieve their business objectives. However, risk perception does not serve as a mediating variable between financial technology and financial inclusion on SME performance, indicating that other factors may be at play in influencing the effectiveness of these constructs on SME outcomes.

Therefore, future efforts to increase financial inclusion should prioritize the delivery of easily accessible and understandable financial services for business actors. Meanwhile, the adoption of financial technology may benefit from additional strategies, such as education and training, to maximize its effectiveness in enhancing SME performance.

Future research is recommended to investigate other potential mediators that could explain the relationship between financial technology, financial inclusion, and SME performance. Variables such as financial literacy, product innovation, or digital adoption may offer important insights into how financial technology can more effectively impact SME performance. Additionally, examining sectoral and geographical differences could provide valuable context-

specific findings. Furthermore, qualitative or mixed-method approaches could be employed to gain a deeper understanding of business actors' perceptions of financial technology and financial inclusion, offering a more comprehensive view of the challenges and opportunities SMEs face in utilizing these technologies.

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