

THE INFLUENCE OF FINANCIAL TECHNOLOGY ON MSME BUSINESS PERFORMANCE: MEDIATION OF FINANCIAL LITERACY, ENTREPRENEURIAL ORIENTATION, AND GOVERNMENT POLICY AS A MODERATOR

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Abstract

Micro and Small Enterprises (MSEs) play a strategic role in the national economy, but they still face various challenges in improving their business performance, particularly in the digital era. This study aims to analyze the influence of financial technology on MSE business performance by considering the mediating role of financial literacy and entrepreneurial orientation, as well as the moderating role of government policy. This study uses a quantitative approach with a survey method of MSE actors. Data were analyzed using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) method with a total of 196 respondents from MSEs who implement digital payments, e-wallets, QRIS, or digital financing platforms. The results of the study indicate that financial technology has a positive effect on financial literacy, entrepreneurial orientation, and MSE business performance. Furthermore, financial literacy and entrepreneurial orientation are proven to act as mediating variables in the relationship between financial technology and MSE business performance, with entrepreneurial orientation having a more dominant influence. These findings indicate that the adoption of financial technology will have a more optimal impact when accompanied by an innovative and proactive entrepreneurial attitude. Meanwhile, government policies have not been able to play a strong role as a moderating variable in strengthening the influence of financial literacy on MSE business performance, indicating the need for more effective and implementable policies. Overall, this study emphasizes the importance of integrating the use of financial technology, increasing entrepreneurial capacity, and strengthening financial literacy in efforts to improve the performance and sustainability of MSEs in the digital era.

Keywords: Financial Technology, Financial Literacy, Entrepreneurial Orientation, Government Policy, MSME Business Performance

INTRODUCTION

The development of financial technology (fintech) in Indonesia has shown very rapid growth in the last decade, driven by increasing internet penetration, the dominance of mobile device use, and changes in people's digital behavior (Carè et al., 2025). The fintech landscape is undergoing a significant transformation from simply digital payment services to a range of more complex services, such as peer-to-peer lending, digital banking, insurtech, wealth-tech, and even open finance services (Capital, 2025). This trend confirms that fintech is not merely a complement to the financial sector but has also served as a major catalyst for national financial inclusion. In addition, collaboration between banking, fintech startups, and e-commerce platforms encourages the creation of broader digital financial services integration (Rahman, Wafi, et al., 2023).

FinTech implementation facilitates payments, financing, cash management, and the integration of digital financial services, thereby boosting business efficiency and competitiveness (Mustapha et al., 2023). Utilizing FinTech can improve the recovery and performance of small businesses amid economic pressures, especially when MSMEs have adequate access to digital services (Lontchi et al., 2023). Technology-based financial access is increasingly important for MSMEs to reduce risk and boost business performance and growth (Purnasalam & Suryani, 2025). Although FinTech adoption continues to increase, its utilization in the MSME sector is not always optimal due to variations in the capacity and readiness of business actors. Waqar et al., (2025) He explained that FinTech will have a significant impact only when MSMEs are able to adapt to digital innovation and utilize it strategically. This situation illustrates the persistent disparity in the use of financial technology among small businesses, particularly in areas where digital infrastructure is unequally distributed (Rahman et al., 2025).

Business owners' ability to understand digital financial products is often a major obstacle. Several studies have shown that financial literacy is a critical factor in determining the effectiveness of FinTech for MSMEs (Rachmaniyah et al., 2025). Financial literacy not only improves business management but also helps MSMEs survive in unstable economic situations (Sholehah & Amaniyah, 2024). This is in line with research Yakob et al., (2022) explained that business owners with a good understanding of financial literacy tend to make more accurate financial decisions based on digital technology. In addition to financial literacy, internal characteristics of business owners, such as innovation, risk-taking, and an entrepreneurial orientation to capitalize on opportunities, impact the success of digital technology implementation in MSMEs (Rahman et al., 2024). Entrepreneurial orientation is a key driver in the adoption of FinTech innovations because it influences how MSMEs assess the benefits and risks of using technology (Waqar et al., 2025).

This has been explained in previous research on entrepreneurial orientation by Jang & Lee, (2025) explains that a strong entrepreneurial orientation contributes to the ability of MSMEs to absorb new technologies and apply them to increase business innovation. On the other hand, the performance of MSMEs in increasing innovation is influenced by factors other than innovation, financial literacy and entrepreneurial orientation, but is also influenced by external factors, namely government regulations and policies (Rahman et al., 2023). Government policies are able to support the growth and sustainability of MSMEs. In addition, previous research on government policies examined by Parmitasari et al., (2023) explained that government support can strengthen the impact of financial literacy on business

performance, particularly through training, policies, and financing facilities. Furthermore, well-targeted government policies can increase opportunities for MSMEs to utilize digital technology more broadly (Shinwari & Adel, 2019).

Although research on MSEs, FinTech, and financial literacy continues to grow, several previous studies have shown that the relationships between these variables are not yet fully understood. These include research on Lontchi et al., (2023) emphasizes the role of literacy in economic recovery; while the research conducted Waqar et al., (2025) Focusing on financial technology as a mediator of entrepreneurial orientation, research findings show that businesses with entrepreneurial capabilities are more likely to use FinTech, reinforcing the claim that proactive, risk-taking, and innovative SMEs interact more with new financial technologies. Furthermore, research Purnasalam & Suryani, (2025) This study explains the relationship between financial inclusion and risk, without considering how business actor orientation and government intervention can strengthen this relationship.

Based on previous research, this study fills the gap in the need for a more integrated empirical model to explain how technology, entrepreneurial orientation, and policy factors interact to influence MSE performance through mediation and moderation. Overall, this research is designed to make a significant contribution to broadening understanding of FinTech utilization in the context of MSEs. By integrating financial literacy, entrepreneurial orientation, and government policy within a single analytical framework, this research is expected to enrich the academic literature and provide a stronger policy foundation for the government and related institutions. These findings are also expected to assist MSEs in maximizing the use of digital technology to improve the competitiveness and sustainability of their businesses.

REVIEW OF LITERATURE

Resource Based View (RBV) Theory

Resource-Based View (RBV) theory is the primary foundation for formulating and implementing corporate strategy to achieve competitive advantage. An organization's success or failure is largely determined by the quality and management of its resources (Rahman et al., 2024). Competitive advantage is created when a company is able to strategically manage its resources through an integrated, mutually supportive, and synergistic system. In a competitive context, companies are required to carry out activities appropriately, including encouraging innovation and building an effective work culture, to survive and excel in a competitive business environment (Sukma, 1992).

Financial Technology

Fintech is the use of digital technology innovation to transform financial services through the development of new products, processes, and business models that provide faster, more efficient, and more accessible services, and are able to disrupt the structure of the traditional financial industry (Bankuoru Egala et al., 2021). This concept emphasizes how technologies such as digital platforms, data analytics, mobile systems, and automation are driving fundamental changes in how financial institutions operate, how value is created, and how consumers interact with financial services (Dapp, 2014).

Performance Business

Business performance is used to assess a company's success in achieving its strategic and financial goals. A literature review shows a shift from purely financial measures to a

combination of financial and non-financial indicators to capture both short-term performance and long-term sustainability (Sobotková, 2024). In addition, business performance is a measure of a company's success in achieving strategic goals through a combination of financial and non-financial indicators that reflect operational efficiency, competitiveness, and business sustainability (Rahman et al., 2024).

Financial Literacy

Financial literacy is broadly defined as the combination of knowledge, skills, attitudes, and behaviors necessary to make sound financial decisions and achieve financial well-being. Financial literacy includes an understanding of concepts such as budgeting, saving, investing, debt management, and risk diversification, as well as the confidence and motivation to apply this knowledge in real-life situations (Klapper & Lusardi, 2020). Furthermore, financial literacy is a fundamental skill for navigating the modern financial system and achieving personal and social well-being. While education, income, and demographic factors shape financial literacy, targeted interventions and policy efforts are needed to close persistent gaps and adapt to the challenges of digital finance (Rahman, Sudarmiatin, et al., 2023).

Orientation Entrepreneurship

Entrepreneurial orientation (EO) refers to the strategic mindset and behavior that drives individuals or organizations to innovate, take risks, and proactively pursue new opportunities. EO is widely recognized as a key factor in entrepreneurial success, influencing both individual intentions and firm performance across a variety of contexts (Hassan et al., 2021). Entrepreneurial orientation is a multifaceted construct encompassing innovation, risk-taking, proactivity, competitive aggressiveness, and autonomy. Its development is influenced by personal, educational, and contextual factors and plays a crucial role in driving individual entrepreneurial intentions and organizational performance. This research highlights the importance of aligning EO dimensions with specific contexts to maximize entrepreneurial success (Saloi et al., 2025).

Policy Government

Government policy is defined as a process or series of actions taken to resolve societal issues, influenced by systematic forces, political processes, institutions, group competition, and rational planning. Theories such as elite/mass, group, institutional, rational choice, and systems theory explain how policies are formulated, implemented, and evaluated, and how ideology and interests influence these processes (Elungan & Tjenreng, 2025). Government policies can be classified into regulatory, distributional, and redistributive policies, as well as macroeconomic policies such as fiscal and monetary. The policy cycle includes initiation, formulation, implementation, and evaluation, with feedback influencing subsequent policies (Ananda et al., 2024).

Hypothesis

Financial Technology Has a Positive Impact on Business Performance

Based on the Resource-Based View (RBV) Theory, technology is viewed as a strategic resource capable of creating competitive advantage because it is valuable and difficult to imitate, thus potentially improving company performance (Rahman et al., 2025). Financial Technology (fintech), as a form of digital innovation, transforms financial processes by increasing efficiency, speeding up services, and expanding market access (Rachmaniyah et al., 2025). The results of previous research conducted by Reta & Indriastuti,

(2025) Satrio & Parhusip, (2025) shows that fintech adoption contributes positively to business performance. Based on the theoretical basis and empirical evidence, the hypothesis is formulated that:

H₁: Financial Technology Has a Positive Influence on Business Performance

H₂: Financial Literacy Mediates Financial Technology on Business Performance

H₃: Entrepreneurial Orientation Mediates Financial Technology on Business Performance

H₄: The Government Policy Moderates Financial Technology's Impact on Business Performance

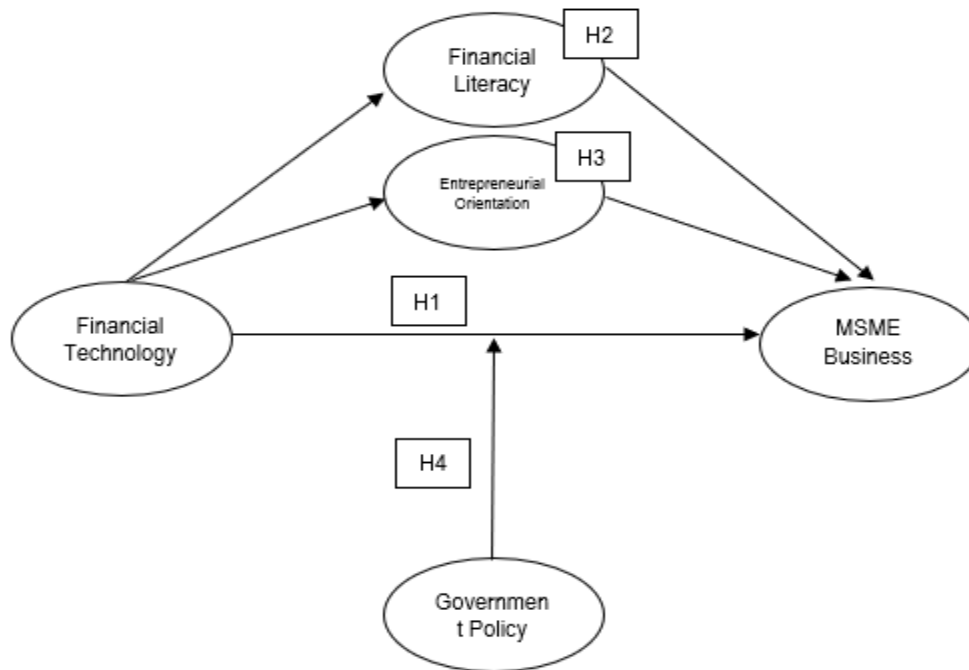


Figure 1.
Conceptual Framework of the Research

RESEARCH METHOD

Study This study uses a quantitative explanatory approach, aiming to explain the causal relationship between financial technology and MSME business performance, with financial literacy and entrepreneurial orientation as mediating variables and government policy as a moderating variable. This approach was chosen because it can empirically and measurably test direct, indirect, and moderating influences. (Mulyadi et al., 2022; Rahman & Pratikto, 2022).

The population in this study is all Micro and Small Enterprises (MSMEs) that have utilized the services. Financial technology (such as digital payments, e-wallets, QRIS, or digital financing platforms) in Pamekasan Regency. The sampling technique used purposive sampling, with the following criteria: 1) MSEs have been operating for at least 1 year, 2) MSEs use at least one financial technology service, 3) MSE owners or managers are willing to be respondents. This study uses primary data obtained through distributing questionnaires to MSE actors, secondary data obtained from government reports, the Financial Services

Authority (OJK), Statistics Indonesia (BPS), and relevant scientific literature. Data collection techniques were carried out through a structured questionnaire using a Likert scale of 1–5 (strongly disagree – strongly agree). Questionnaires were distributed online and offline to increase the response rate.(Fauji et al., 2023; Puspasari et al., 2021; Rahman, Handayati, et al., 2023).

RESULTS AND DISCUSSION

Table 1
Characteristics of Research Respondents

Gender	Amount	Percentage
Man	111	56.6%
Woman	85	43.4%
Total	196	100%
Age		
>30-40	75	38.3%
>40-50	18	9.2%
>50	2	1.0%
<30	101	51.5%
Total	196	100%
Level of education		
Senior High School	78	39.8%
Bachelor's Degree/Diploma	107	54.6%
Masters/Doctoral Degree	11	5.6%
Total	196	100%
Length of Business		
<1 Year	53	27.0%
>1-5 Years	121	61.7%
>5-10 Years	11	5.6%
>10 Years	11	5.6%
Total	196	100%

Source: Data processed by researchers 2025

Based on gender, the study respondents were predominantly male, amounting to 111 people (56.6%), while female respondents numbered 85 people (43.4%). This composition indicates that MSE actors in this study are still dominated by men, although female

participation is also quite significant. Judging from the age of respondents, the majority of MSE actors are in the age group under 30 years, amounting to 101 people (51.5%). This condition indicates that MSE actors are dominated by the young productive age generation who are relatively adaptive to innovation and the use of technology, including financial technology. Furthermore, the 30-40 age group numbered 75 people (38.3%), while respondents aged 40-50 years were only 18 people (9.2%), and those aged over 50 years were the smallest group, namely 2 people (1.0%).

Based on educational level, the majority of respondents had a bachelor's/diploma degree, amounting to 107 respondents (54.6%). This indicates that the majority of MSEs in this study have a relatively adequate level of secondary education to understand financial literacy and the use of digital technology. Respondents with a high school education numbered 78 (39.8%), while respondents with a master's/doctoral degree were relatively small, at 11 (5.6%). In terms of length of business, the majority of respondents had been running their businesses for 1–5 years, amounting to 121 (61.7%). This condition indicates that the majority of MSEs are in the development and growth phase of their businesses. Furthermore, respondents with a business experience of less than 1 year numbered 53 (27.0%), reflecting the presence of new MSEs that are starting their businesses. Meanwhile, MSEs with a business experience of more than 5 years are still relatively small, with 11 (5.6%) for the 5–10 years and over 10 years categories, respectively.

Overall, the characteristics of the respondents indicate that the MSEs in this study are dominated by young entrepreneurs, relatively well educated, and are in the early to middle stages of business development, so it is relevant to examine the role of financial technology, financial literacy, entrepreneurial orientation, and government policies on MSE business performance.

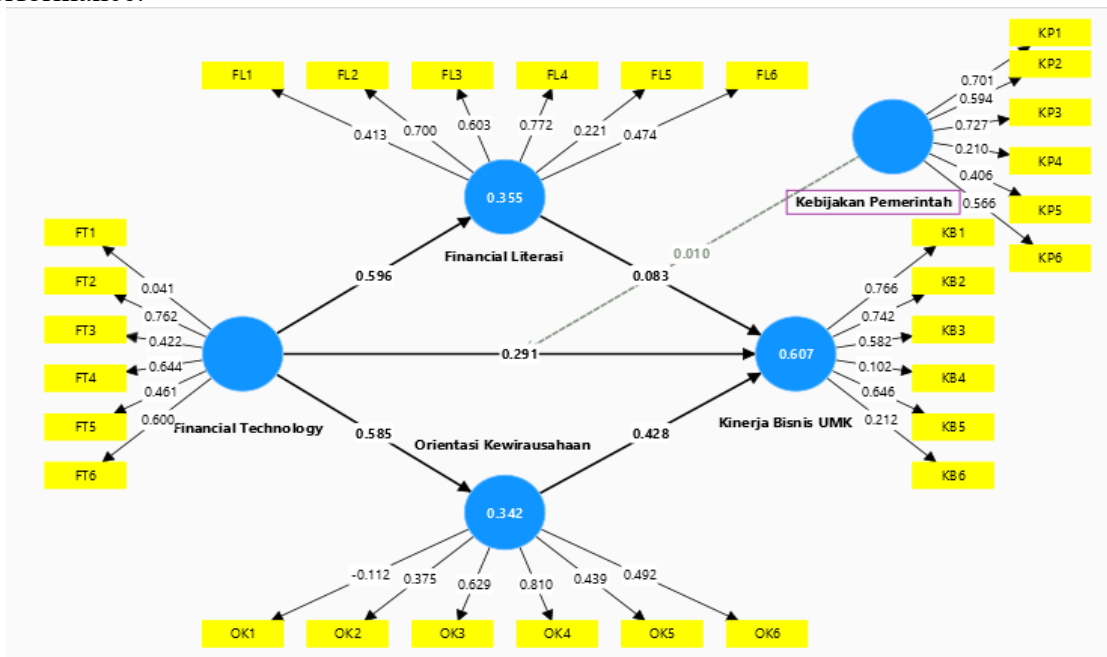


Figure 2.
Results of SEM-PLS Analysis

Structural Model Discussion

Based on The results of structural model testing using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) approach obtained a picture of the causal relationship between the constructs analyzed, namely Financial Technology, Financial Literacy, Entrepreneurial Orientation, Government Policy, and MSE Business Performance. The R-square (R^2) value shows that the MSE Business Performance variable has a value of 0.607, which means that 60.7% of the variation in MSE business performance can be explained by the variables of Financial Technology, Financial Literacy, Entrepreneurial Orientation, and interaction with Government Policy. Meanwhile, the R^2 value for Financial Literacy is 0.355 and Entrepreneurial Orientation is 0.342, which indicates that both constructs are in the moderate category, so the model has a fairly strong explanatory power.

Based on the Resource-Based View (RBV) perspective, the results of this study indicate that financial technology, financial literacy, and entrepreneurial orientation can be viewed as strategic resources that are valuable, rare, difficult to imitate, and not easily replaced in the context of MSEs. The high R^2 value for the MSE Business Performance variable indicates that the MSE's ability to effectively manage and combine these internal resources is capable of creating a sustainable competitive advantage. In other words, MSE business performance is not solely determined by external factors, but is highly dependent on the internal capabilities of business actors in utilizing financial technology and translating it into value-added business strategies.

Furthermore, the findings of this study can also be explained through the Technology–Organization–Environment (TOE) framework and Human Capital Theory. From a TOE perspective, financial technology represents a technological dimension that drives organizational change, particularly through increasing financial literacy and entrepreneurial orientation among MSEs, while government policies reflect the external environmental dimension that influences the effectiveness of technology utilization. Meanwhile, based on Human Capital Theory, financial literacy and entrepreneurial orientation are forms of human capital investment that play a crucial role in increasing business productivity and performance. The moderate to strong R^2 values for both variables confirm that improving the quality of human resources is a key prerequisite for financial technology adoption to have an optimal impact on MSE business performance.

Direct Influence Between Variables

The path estimation results show that Financial Technology has a positive and significant effect on Financial Literacy with a path coefficient of 0.596. This finding indicates that the increasingly intensive use of financial technology can improve the understanding and ability of MSEs to manage finances more effectively. In addition, Financial Technology also has a positive effect on Entrepreneurial Orientation with a coefficient value of 0.585, which indicates that the adoption of financial technology encourages innovative, proactive attitudes, and the courage to take risks in running a business. Furthermore, Financial Technology has a direct effect on MSEs Business Performance with a coefficient of 0.291, which confirms that the use of financial technology can directly improve operational efficiency, access to financing, and overall business performance.

Based on the Resource-Based View (RBV) perspective, the finding that Financial Technology has a positive effect on Financial Literacy, Entrepreneurial Orientation, and MSE Business Performance indicates that financial technology can be viewed as a valuable

and difficult-to-imitate strategic resource when integrated with the internal capabilities of business actors. Financial literacy and entrepreneurial orientation act as organizational capabilities that enable MSEs to optimally exploit the potential of financial technology. Thus, improving MSE business performance does not solely come from technology ownership, but from the ability of MSE actors to combine this technology with financial knowledge and an entrepreneurial attitude to create a sustainable competitive advantage.

Furthermore, the results of this study can also be explained through the Technology–Organization–Environment (TOE) and Diffusion of Innovation frameworks. From a TOE perspective, financial technology represents a technological dimension that drives changes in the organizational dimension, particularly in the form of increasing financial literacy and entrepreneurial orientation of MSEs, while its direct influence on business performance reflects the organization's readiness to adopt the technology. Meanwhile, according to Diffusion of Innovation Theory, the adoption of financial technology by MSEs is influenced by perceptions of relative benefits, ease of use, and compatibility with business needs. The higher the level of adoption and utilization of financial technology, the greater its impact on changes in financial and entrepreneurial behavior, which ultimately leads to a sustainable improvement in MSE business performance.

The Mediating Role of Financial Literacy and Entrepreneurial Orientation

The analysis results show that Financial Literacy has a positive effect on MSE Business Performance, although with a relatively small coefficient of 0.083. This indicates that increasing financial literacy still contributes to business performance, especially in making more rational financial decisions. Meanwhile, Entrepreneurial Orientation has a stronger influence on MSE Business Performance with a coefficient of 0.428. This finding indicates that MSE actors who have a high entrepreneurial orientation tend to be able to improve their business performance through innovation, courage to take opportunities, and responsiveness to market changes. Thus, Financial Literacy and Entrepreneurial Orientation act as mediating variables in the relationship between Financial Technology and MSE Business Performance, with Entrepreneurial Orientation showing a more dominant mediating role.

Based on Human Capital Theory, financial literacy and entrepreneurial orientation are forms of investment in human capital that play a role in increasing the productivity and quality of decision-making of MSEs. The finding that financial literacy has a positive but relatively small effect on business performance indicates that financial knowledge and skills are complementary core capabilities. Financial literacy enables MSEs to manage resources more efficiently and reduce the risk of financial decision-making errors. However, significant performance improvements require strengthening behavioral and strategic aspects, particularly entrepreneurial skills in translating this knowledge into economically valuable business actions.

Furthermore, from a Resource-Based View (RBV) perspective, entrepreneurial orientation can be viewed as a strategic resource characterized by being valuable, rare, difficult to imitate, and non-substitutable. The strong influence of entrepreneurial orientation on MSE business performance indicates that MSE competitive advantage is not solely determined by access to technology or financial capital, but by the ability of business actors to combine financial knowledge with innovative, proactive, and risk-taking attitudes. In the context of its mediating role, this finding confirms that financial technology will have a more

optimal impact on business performance if it is able to improve the quality of human capital and strengthen MSE internal resources, thereby creating a sustainable competitive advantage in accordance with the RBV framework.

The Moderating Role of Government Policy

The Government Policy variable was tested as a moderating variable in the relationship between Financial Literacy and MSE Business Performance. The test results show that the interaction between Financial Literacy and Government Policy has a coefficient of 0.010, indicating that the moderating role of government policy is relatively weak in strengthening the influence of financial literacy on business performance. This finding suggests that although government policy is important, its effectiveness in improving MSE performance through financial literacy still depends on more targeted and sustainable policy implementation.

Based on Institutional Theory, government policy is part of the regulatory and normative institutional pressures that shape organizational behavior, including MSEs. The weak moderating role of government policy in this study indicates that existing institutional pressures are not yet strong enough or effective in encouraging MSEs to optimize their financial literacy to improve business performance. This may be caused by inconsistent policies, lack of regulatory enforcement, or low levels of policy internalization by MSEs. Thus, government policy has not fully functioned as an institutional mechanism capable of guiding and strengthening MSEs' financial management behavior in a sustainable manner.

Furthermore, from a Technology–Organization–Environment (TOE) perspective, government policy represents an environmental dimension (environmental context) that plays a role in creating external conditions for the adoption and utilization of MSEs' internal capabilities. The relatively small moderation coefficient indicates that the policy environment does not fully support the transformation of financial literacy into improved business performance. A complex regulatory environment, limited access to incentives, and a lack of synergy between government programs can weaken the effectiveness of financial literacy in driving MSE performance. Therefore, for government policy to play a more optimal role as an environmental factor, a more adaptive, coordinated policy approach oriented toward creating a conducive business ecosystem for MSEs is needed.

Theoretical and Practical Implications

Theoretically, the results of this study strengthen the integrative model linking financial technology, financial literacy, and entrepreneurial orientation in improving MSE performance. Practically, these findings emphasize the importance of increasing financial technology adoption coupled with strengthening entrepreneurial orientation as a key strategy for enhancing MSE competitiveness, as well as the need to optimize government policies for greater tangible impact.

From a theoretical perspective, the findings of this study provide an important contribution to the development of MSE literature by confirming that the relationship between financial technology and business performance is not linear, but rather mediated by the internal capabilities of business actors, particularly financial literacy and entrepreneurial orientation. The resulting integrative model enriches the resource- and human capital-based approach by demonstrating that financial technology will only provide strategic value if it is internalized through the entrepreneurial knowledge and attitudes of MSE actors. Thus, this

study broadens theoretical understanding of the mechanisms by which digital transformation can translate into sustainable competitive advantage in the MSE sector.

Meanwhile, from a practical and policy perspective, the results of this study indicate that strategies to improve MSE performance cannot solely focus on expanding access to financial technology. Strengthening entrepreneurial orientation needs to be a key agenda in MSE mentoring programs so that business actors can utilize technology innovatively and strategically. Furthermore, optimizing government policies needs to be directed at creating an ecosystem that supports the integration of technology, human resource capacity development, and business sustainability. A more coordinated, needs-based, and long-term policy approach is expected to increase the effectiveness of government interventions in promoting MSE competitiveness and growth.

CONCLUSION

This study aims to analyze the influence of financial technology on MSE business performance by considering the mediating role of financial literacy and entrepreneurial orientation, as well as the moderating role of government policy. Based on the results of the structural model analysis, it can be concluded that financial technology plays a strategic role in improving MSE business performance, both directly and indirectly.

Financial technology has been shown to have a direct positive impact on MSE business performance, demonstrating that its use can improve operational efficiency, expand access to financing, and support more modern and adaptive business financial management. Furthermore, financial technology also positively impacts financial literacy and entrepreneurial orientation, confirming that the adoption of financial technology impacts not only technical aspects but also shapes the cognitive capabilities and entrepreneurial attitudes of MSE actors. The mediating role indicates that entrepreneurial orientation has a stronger contribution than financial literacy in improving MSE business performance. This indicates that MSE actors' innovative abilities, risk-taking courage, and proactivity are key factors in optimizing the benefits of financial technology. Meanwhile, financial literacy remains important as a foundation for rational and sustainable financial decision-making, although its influence is relatively smaller.

On the other hand, government policies have not demonstrated a strong moderating role in strengthening the relationship between financial literacy and MSE business performance. This finding indicates that the existence of policies alone is not sufficient; more effective, integrated policy implementation is needed, aligned with the real needs of MSE actors. Overall, this study confirms that improving MSE business performance depends not only on the adoption of financial technology but also on the readiness of human resources, particularly in aspects of entrepreneurship and financial literacy, as well as targeted policy support.

Recommendation

First, MSMEs are advised to adopt financial technology not only as a transaction tool but also as a tool for financial management, business planning, and strategic decision-making. Enhancing entrepreneurial orientation needs to be a priority through the development of product innovation, the courage to explore new markets, and the ability to adapt to changes in the digital business environment.

Second, the government and policymakers need to design more applicable policies that are oriented towards the real needs of MSEs. Financial and digital literacy programs need to be integrated with ongoing business mentoring, not just outreach. Furthermore, policies that encourage access to technology-based financing must be accompanied by strengthening entrepreneurial capacity to optimize their impact on MSE performance.

Third, financial institutions and financial technology service providers are advised to develop products and services that are more inclusive, easy-to-understand, and tailored to the characteristics of MSEs. User education and business management support features need to be an integral part of fintech services to improve financial literacy and business performance.

Fourth, for future researchers, it is recommended to expand the research model by including other variables such as digital capabilities, financial inclusion, or business environment factors, as well as using a longitudinal or mixed methods approach to gain a more comprehensive understanding of the dynamics of MSE performance in the digital era.

By implementing these recommendations consistently and collaboratively, it is hoped that MSEs will be able to increase their competitiveness and business sustainability, while also contributing significantly to national economic growth.

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