The Mediating Effect of Financial Management Behavior on MSME Economic Performance in Bali

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Abstract:

The objective of this research is to assess the influence of financial literacy on the performance of MSMEs in Bali; the influence of financial attitudes on the performance of MSMEs in Bali; and the influence of financial technology on the performance of MSMEs in Bali. Furthermore, this study evaluates the impact of financial literacy, financial attitudes, and financial technology on financial management behavior among MSMEs in Bali. It also examines the mediating role of financial management behavior in the relationship between financial literacy, financial attitudes, and financial technology with MSME performance. Specifically, the study explores whether financial management behavior serves as a mediator in the effect of financial literacy, financial attitudes, and financial technology on the performance of MSMEs in Bali. The data were analyzed using the Structural Equation Modeling (SEM) method based on Partial Least Squares (PLS). The findings indicate that financial literacy, financial attitudes, and the use of financial technology significantly and positively influence both MSME performance and financial management behavior. Moreover, these three variables exert indirect effects on MSME performance through improvements in financial management behavior, which acts as a mediating variable.

Keywords: Financial Management Behavior, Financial Literacy, Financial Attitudes, Financial Technology, MSME Performance

1. Introduction

Micro, Small and Medium Enterprises (MSMEs) are the backbone of the Indonesian economy. The Minister of Communication and Information, Johnny G. Plate, stated that "MSMEs contribute more than 60 percent of Gross Domestic Product (GDP)" (Plate, 2020). In addition, the Coordinating Minister for Economic Affairs, Airlangga Hartarto, revealed that "MSMEs have had the number of business sectors in 2021 reaching 64.19 million and have contributed to GDP up to 61.07 percent or IDR 8,574 trillion" (Hartarto, 2022). However, behind this large contribution, MSMEs face various challenges, especially in terms of financial management. According to data from the Ministry of Cooperatives and SMEs, "the three main problems faced by

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MSMEs during the Covid-19 Pandemic include: decreased demand (22.90%), obstructed distribution (20.01%), and capital (19.93%)" (KemenkopUKM, 2020).

This condition has been exacerbated by the Covid-19 pandemic that has hit since early 2020. In a study, it was stated that "more than 50% of MSMEs indicated that they could go out of business in the next few months" due to the pandemic (Thaha, 2020). In addition, "the decline in turnover of MSMEs and cooperatives due to Covid-19 has been very significant since its emergence at the end of 2019" (Amri, 2020). One of the areas that has experienced a significant impact is Sukawati District, Gianyar Regency, Bali. As an area known for its tourism and handicraft sectors, many MSMEs in Sukawati depend on tourist visits. When the tourism sector came to a halt due to social restrictions, MSMEs in this area were significantly affected. According to reports, "MSMEs in this COVID-19 era generally experience a decline in sales, distribution difficulties, capital difficulties, raw material difficulties, and production difficulties" (ANTARA News Bali, 2020).

In an effort to survive in the midst of these challenges, MSMEs in Sukawati and Bali in general are still faced with a number of obstacles, one of which is the lack of ability to manage business finances. Suboptimal financial management makes it difficult for MSMEs to allocate resources, manage cash flow, and make the right financial decisions. As mentioned, "MSMEs that are unprepared to transition to a digital business model have difficulty keeping their businesses running well during the pandemic" (Kompasiana, 2023).

Financial management behavior is an important factor that needs to be considered to improve the performance of MSMEs, especially in mediating the influence of financial literacy, financial attitudes, and the use of financial technology. Good financial literacy can help MSME players understand and manage the financial aspects of their business effectively. Positive financial attitudes, such as discipline in spending and financial planning, also contribute to business stability and growth. In addition, utilization of financial technology can provide convenience in transactions, financial recording, and access to financing.

In a bid to survive and adapt to changing situations, MSMEs are faced with the need to change their business models. One of the most noticeable changes is the increasing use of financial technology or fintech, especially when it comes to cashless payments. During the pandemic, contactless payments and online sales have become more common due to social distancing and shifting consumer behavior. This has resulted in MSMEs having to quickly adapt to new technologies in order to stay relevant and survive the increasingly fierce market competition.

After the Covid-19 pandemic, MSMEs began to recover slowly. MSME players are starting to adjust to changes in the market. However, MSMEs that have the potential to grow still face a number of problems. One common issue is the lack of separation between business finances and daily personal needs, resulting in confusion in calculating net profit and profit percentage. Many MSME players also overlook the importance of preparing financial statements to analyze their business activities.

Financial management falls apart when involved in trade debts or loans from financial institutions, where the debt becomes a fixed obligation. Having a good understanding of financial management is crucial for MSME players in Indonesia to maintain their business performance.

Effective financial management is one of the factors that greatly influence the performance of Micro, Small and Medium Enterprises (MSMEs). With good financial management practices, individuals can manage, organize and allocate financial resources optimally, thereby reducing the risk of errors. An individual's approach to financial management reflects how personal circumstances can influence financial decisions.

Lack of understanding of financial management is often caused by low levels of financial literacy, which in turn has a negative impact on the performance of MSMEs. Financial literacy encompasses the knowledge and skills needed to use finance wisely in decision-making. MSME entrepreneurs must have sufficient knowledge and skills to handle financial aspects. A high level of financial literacy is very important because it is directly related to financial management skills. The higher the financial literacy of MSMEs, the better their performance.

According to research conducted by Nurjanah et al. (2022), having a good level of financial literacy, including knowledge of finance and investment, can improve financial management behavior in business. This can reduce the risk of bankruptcy or business failure for business people who improve their financial literacy. Another study conducted by Nopiyani & Indiani, (2023), also showed that financial literacy has a positive and significant influence on the performance of MSMEs. This is supported by the skills possessed by business actors in managing and running their businesses, which in turn affects the financial health of the business and the decision-making process they carry out.

Meanwhile, research conducted by (Herdiansyah et al., 2023) shows that financial literacy does not play a role in shaping good financial management behavior to carry out MSME business activities. A high level of financial literacy in MSME actors does not guarantee good financial management behavior, and vice versa, a low level of knowledge does not necessarily mean poor financial management. Other factors such as leader involvement and work discipline also influence financial management behavior. Research by Hayati & Prasetyo Budi, (2023) also shows that financial literacy at a very high level has no significant effect on MSME performance. This means that MSME performance is not directly influenced by the level of financial literacy. Other factors such as leader involvement and work discipline play a greater role in determining MSME performance.

The second factor affecting MSME performance is attitude towards finance. The majority of MSME players often have inadequate financial attitudes. This is evident from their tendency to be satisfied with what they have achieved. They may not consider improving their financial management skills because they feel that their business is already running well and smoothly without the need for financial reports.

According to research conducted by Amelia, (2022), it is concluded that the positive attitude of MSME owners or managers towards money has a positive impact on the company's financial management. Good attitudes related to finance help MSME stakeholders in guiding their actions and behaviors related to the financial aspects of the company. Research by Fitria et al. (2021) also confirms that financial attitudes have a positive and significant impact on MSME performance. This shows that the better the financial attitude, the more business performance will improve. The results of this study suggest that the majority of MSME owners have a future orientation, which is reflected in setting strong financial targets for the future. This orientation has the potential to influence decision-making and overall business performance.

Meanwhile, research conducted by Fatimah & Kurniawanto, (2023), concluded that financial attitudes do not have a significant influence on financial management behavior. This is due to the different perspectives that each respondent has on financial management and handling financial situations. In addition, based on research by Hayati & Prasetyo Budi, (2023) it was found that although financial attitudes can affect overall financial performance, an increase in financial attitudes does not guarantee an increase in financial performance.

The third factor that affects the financial performance of MSMEs is financial technology or fintech. In the current era, technology has become an important necessity for humans because it is used in various daily activities. The use of this technology changes the habits of users because they find it helpful. For example, someone who used to have to leave the house to conduct banking transactions can now do so through digital technology with the help of banking applications.

This change brings a new phenomenon in the financial sector, where what was previously conventional has now turned digital, known as financial technology or fintech. Through the use of fintech, MSME players can more easily manage their finances and track income and expenses in every transaction. Conducting regular and accurate financial reporting will support MSME players in applying for capital loans from financial institutions, such as through the People's Business Credit (KUR) program. In addition, financial reports also serve as a marker of the success or failure of a business. Thus, maintaining neat and detailed financial records can be an important factor in achieving success in business.

According to research conducted by Akbar et al., (2023), concluded that financial technology has a significant influence on financial management behavior. Economic actors have good knowledge of various fintech products such as digital payment systems, digital banking, peer-to-peer lending, online / digital insurance, and crowdfunding lending. The better financial technology is used by economic actors, the better the financial management of MSMEs. A study by Farhan et al. (2019) confirms that financial technology has a positive impact on the performance of MSMEs. The use of fintech facilitates financial management through technology and digitalization. In addition, fintech accelerates the transaction process and also provides

alternative financing solutions. The various facilities provided by Fintech can improve the performance of MSMEs.

There are studies that contradict the view that financial technology has a significant impact on financial management behavior. According to research conducted by Anisyah et al. (2021), it was concluded that financial technology has no significant effect on financial management behavior. This is due to various factors such as environmental conditions, low social status, and lack of understanding in the use of financial technology, because the majority of MSME players still rarely use technology. Similarly, research by Setyawan & Amelia, (2023) also shows that there is no relationship between financial technology and MSME performance. Lack of knowledge about technology leads to hesitation in adopting fintech. Services such as m-banking and digital payments may be popular among MSME players, but the flexibility of transactions offered by fintech has not been fully optimized. In making transactions, MSME players pay more attention to security factors, confidentiality of information, and costs than the convenience offered by fintech.

One theory that is often used is the Theory of Planned Behavior (TPB) developed by Ajzen (1991). This theory states that a person's behavior is determined by three main factors, namely attitude toward behavior, subjective norms, and perceived behavioral control. In the context of financial management, positive financial attitudes, social influence from the environment, and belief in the ability to manage finances can influence the financial behavior of MSME actors. In line with TPB, research by Xiao and Porto (2017) explains that financial management behavior is influenced by financial literacy, financial attitudes, and self-efficacy. Xiao stated that: Financial literacy alone may not be sufficient to improve financial behavior. The inclusion of financial attitude and self-efficacy as mediators is important to better understand behavior outcomes (Xiao & Porto, 2020). In addition, Huston (2020) in his review of financial literacy states that financial knowledge will only be effective if it is accompanied by the motivation and skills to apply it in everyday financial decisions. In a more recent study, Antoni, Louzada, & Aguiar (2022) asserted that: Financial behavior is not solely influenced by knowledge. Personality traits, habits, and technological adaptation also shape financial decision-making patterns in small businesses.

This condition confirms that some MSMEs face significant challenges in maintaining and improving their operational continuity. Therefore, this research is very important to provide MSMEs with a better understanding of the importance of managing their finances well to improve their business performance.

With a deeper understanding of the factors that affect MSMEs' financial performance, businesses can identify areas for improvement and take appropriate steps to enhance their financial management capabilities. This can help them overcome the challenges they face and increase their chances of growth and business success in an increasingly competitive market.

2. Theoretical Background

MSME

According to the provisions of Law No. 20/2008, MSMEs refer to businesses owned by individuals or business entities that stand alone and are not part of another company, with certain requirements related to the amount of business capital. Law No. 20/2008 on Micro, Small, and Medium Enterprises regulates MSMEs. According to the law, Micro Enterprises are productive businesses owned by individuals or business entities with asset criteria not exceeding IDR 50,000,000 and annual turnover not exceeding IDR 300,000,000. Small Enterprises are productive economic businesses that stand alone with the criteria of company assets between Rp50,000,000 and Rp500,000,000 and annual turnover between Rp300,000,000 and Rp2,500,000,000. Meanwhile, medium-sized enterprises are productive economic businesses that stand alone, conducted by individuals or business entities, with asset criteria between Rp500,000,000,000 and Rp10,000,000,000, and annual turnover between Rp2,500,000,000 and Rp50,000,000,000. According to the Central Bureau of Statistics (BPS), the definition of MSMEs is based on the number of employees they have. Micro enterprises have around 1 to 5 workers, small enterprises have 5 to 19 workers, while medium enterprises have 20 to 99 workers.

MSME Performance

According to Hanim & Noorman's research, (2018, p. 79), the performance of MSME actors reflects the achievements they have achieved both individually and in a group context, and has an important role in achieving business goals. Therefore, the performance of Micro, Small and Medium Enterprises (MSMEs) can be interpreted as an evaluation of the performance of businesses managed by individuals or groups that manage business units with reference to predetermined goals or criteria and the business is included in a business group. If MSMEs are able to absorb a lot of labor, this indicates that the company is performing well, and in turn, MSMEs play a significant role in addressing the problem of unemployment. In addition, productivity is also an important parameter; an increase in the amount of labor used indicates an increase in productivity. The success of MSMEs is also reflected in their growing revenues, which are often influenced by increased sales. With increased sales volume, the performance of MSMEs directly improves Risqi, (2023).

Financial Management Behavior

According to Herdiansyah, (2023)**,** financial management behavior includes a person's ability to organize, plan, budget, check, manage, control, search, and save daily financial funds. The level of individual needs to meet the needs of life in accordance with their income per capita triggers the emergence of financial management behavior, as expressed by Amelia, (2022). Herdiansyah, (2023) also stated that good financial management behavior can be seen from effective financial planning, management, and control activities. Financial management in micro businesses has a crucial role in ensuring sustainable business continuity. This is due to the lack of adequate financial reports in most micro enterprises, making it difficult to accurately

monitor income and expenses. Moreover, there is often no clear separation between finances for business needs and finances for personal needs. As a result, the business tends to stagnate and not grow over time (Herdiansyah, 2023).

Financial Literacy

According to the Financial Services Authority (2020), financial literacy is a financial education effort that aims to improve individuals' understanding, skills and confidence in financial aspects, which in turn affects the way they make financial decisions and manage money, with the ultimate goal of improving welfare. Atkinson, (2021) also defines financial literacy as an effort to improve individual or community understanding of financial concepts, so that they are able to make better financial decisions to improve their welfare and contribute to economic activity. Based on some of the available definitions, it can be concluded that financial literacy refers to an individual's ability and skills in understanding and managing finances, both in the context of business and personal life. It is essential for making wise financial decisions and managing finances efficiently, with the aim of preventing financial problems in the future.

Financial Attitude

Financial attitudes refer to the mental state, opinions, and assessments of individuals towards financial aspects that are reflected in their financial behavior and decisions. According to Humaira (2017), financial attitude is how individuals perceive, evaluate, and respond to their personal finances. It reflects individuals' psychological tendencies in managing their finances. Financial attitude can also be explained as the application of financial principles to shape and sustain value through efficient decision-making and resource management (Humaira, 2017). In other words, financial attitudes reflect the way individuals perceive, assess and act towards various aspects of their finances.

Financial Technology

Financial technology, or fintech, refers to financial services organized digitally, including payment systems, banking, insurance, lending, fund management, and even financial education through digital platforms. In Indonesia, fintech has great potential to develop Micro, Small, and Medium Enterprises (MSMEs). MSMEs often face challenges in terms of finance and access to capital. With the adoption of fintech, it is hoped that MSMEs can gain convenience and efficiency in terms of finance and marketing, helping them grow and develop better Rohmanto & Susanti, (2021). Based on this definition, it can be concluded that *Financial Technology* is a digital application and platform that helps individuals or businesses manage their finances more efficiently and easily, such as money transfers, payments, investments, loans, and other services. *Fintech* helps facilitate people's access to financial products and services and increase efficiency and transparency in the financial sector.

3. Methodology

This research was conducted at MSMEs in Sukawati Art Market, Gianyar, Bali, which is known as the center of sales of various Balinese art products and a destination for local and foreign tourists. The population of this study were all art MSME traders in the market, totaling 820 people. The sample was determined using the Slovin formula with an error rate of 5%, resulting in 271 respondents. The type of data used is primary data obtained directly from traders through the distribution of closed questionnaires. The data analysis technique uses the Structural Equation Modeling (SEM) method based on Partial Least Square (PLS). Data analysis includes three stages, namely outer model analysis to test the validity and reliability of construct indicators (including convergent validity, discriminant validity, AVE, composite reliability, and Cronbach alpha), inner model analysis to evaluate the relationship between latent constructs (using R Square and Q Square), and hypothesis testing with a significance level of 5%. In addition, mediation testing was also conducted through three test models to determine the role of mediating variables in the relationship between constructs.

4. Empirical Findings/Results

Outer Model Evaluation (Measurement Model)
Convergent Validity

Table 1. *Outer Loading* Value

	Financal Technology	MSME Performance	Financial Literacy	Financial Management Behavior	Financial Attitude
X1.1			0.935		
X1.10			0.921		
X1.11			0.910		
X1.12			0.904		
X1.13			0.930		
X1.14			0.926		
X1.15			0.908		
X1.16			0.908		
X1.17			0.919		
X1.18			0.935		
X1.19			0.909		
X1.2			0.919		
X1.20			0.932		
X1.3			0.924		
X1.4			0.918		
X1.5			0.940		
X1.6			0.902		
X1.7			0.906		
X1.8			0.919		
X1.9			0.927		
X2.1					0.928
X2.10					0.914
X2.11					0.908
X2.12					0.916
X2.13					0.916
X2.14					0.926

	Financal Technology	MSME Performance	Financial Literacy	Financial Management Behavior	Financial Attitude
X2.15					0.915
X2.16					0.934
X2.2					0.917
X2.3					0.926
X2.4					0.910
X2.5					0.933
X2.6					0.897
X2.7					0.906
X2.8					0.937
X2.9					0.916
X3.1	0.945				
X3.10	0.911				
X3.11	0.911				
X3.12	0.917				
X3.13	0.908				
X3.14	0.920				
X3.15	0.924				
X3.16	0.936				
X3.2	0.922				
X3.3	0.932				
X3.4	0.915				
X3.5	0.922				
X3.6	0.917				
X3.7	0.892				
X3.8	0.905				
X3.9	0.931				
Y1.1		0.932			
Y1.10		0.931			
Y1.11		0.902			
Y1.12		0.925			
Y1.13		0.914			
Y1.14		0.916			
Y1.15		0.907			
Y1.16		0.934			
Y1.17		0.915			
Y1.18		0.922			
Y1.19		0.927			
Y1.2		0.910			
Y1.20		0.926			
Y1.3		0.932			
Y1.4		0.916			
Y1.5		0.926			
Y1.6		0.915			
Y1.7		0.910			
Y1.8		0.918			
Y1.9		0.908			
Z1.1				0.924	
Z1.10				0.912	
Z1.11				0.924	

	Financal Technology	MSME Performance	Financial Literacy	Financial Management Behavior	Financial Attitude
Z1.12				0.915	
Z1.13				0.920	
Z1.14				0.913	
Z1.15				0.913	
Z1.16				0.925	
Z1.17				0.924	
Z1.18				0.917	
Z1.19				0.920	
Z1.2				0.918	
Z1.20				0.909	
Z1.21				0.923	
Z1.22				0.891	
Z1.23				0.939	
Z1.24				0.942	
Z1.3				0.923	
Z1.4				0.912	
Z1.5				0.936	
Z1.6				0.908	
Z1.7				0.908	
Z1.8				0.923	
Z1.9				0.916	

Source : Data Processed by SEM-PLS (2025)

Based on the data presentation in the table above, it is known that each indicator of the research variable has an *outer loading* value> 0.7. This means that the correlation between the score of the research item / indicator and the *construct* has a high reflective size. So that the *indicators* in this study can be declared valid as a measure of latent variables.

Discriminant Validity

Table 2. *Cross Loading* Value

	Financal Technology	MSME Performance	Financial Literacy	Financial Management Behavior	Financial Attitude
X1.1	0.932	0.929	0.935	0.931	0.935
X1.10	0.915	0.918	0.921	0.919	0.916
X1.11	0.904	0.906	0.910	0.909	0.911
X1.12	0.904	0.901	0.904	0.903	0.907
X1.13	0.926	0.928	0.930	0.923	0.927
X1.14	0.922	0.928	0.926	0.926	0.925
X1.15	0.903	0.904	0.908	0.908	0.905
X1.16	0.909	0.904	0.908	0.905	0.902
X1.17	0.917	0.917	0.919	0.916	0.914
X1.18	0.933	0.934	0.935	0.932	0.932
X1.19	0.900	0.904	0.909	0.904	0.905
X1.2	0.922	0.915	0.919	0.916	0.916
X1.20	0.924	0.926	0.932	0.930	0.925

	Financal Technology	MSME Performance	Financial Literacy	Financial Management Behavior	Financial Attitude
X1.3	0.923	0.919	0.924	0.921	0.917
X1.4	0.912	0.915	0.918	0.916	0.912
X1.5	0.937	0.940	0.940	0.939	0.935
X1.6	0.901	0.904	0.902	0.898	0.898
X1.7	0.907	0.907	0.906	0.904	0.901
X1.8	0.914	0.917	0.919	0.922	0.918
X1.9	0.921	0.922	0.927	0.927	0.922
X2.1	0.917	0.917	0.921	0.919	0.928
X2.10	0.910	0.913	0.915	0.912	0.914
X2.11	0.907	0.905	0.909	0.908	0.908
X2.12	0.910	0.912	0.916	0.917	0.916
X2.13	0.920	0.915	0.914	0.916	0.916
X2.14	0.922	0.923	0.918	0.922	0.926
X2.15	0.910	0.914	0.914	0.913	0.915
X2.16	0.928	0.925	0.926	0.926	0.934
X2.2	0.911	0.909	0.910	0.907	0.917
X2.3	0.915	0.915	0.917	0.916	0.926
X2.4	0.902	0.902	0.902	0.901	0.910
X2.5	0.929	0.932	0.930	0.933	0.933
X2.6	0.890	0.895	0.895	0.895	0.897
X2.7	0.907	0.906	0.904	0.905	0.906
X2.8	0.931	0.935	0.936	0.934	0.937
X2.9	0.919	0.916	0.913	0.913	0.916
X3.1	0.945	0.938	0.939	0.940	0.939
X3.10	0.911	0.909	0.906	0.908	0.909
X3.11	0.911	0.907	0.909	0.910	0.913
X3.12	0.917	0.911	0.909	0.911	0.908
X3.13	0.908	0.905	0.903	0.903	0.900
X3.14	0.920	0.917	0.916	0.919	0.917
X3.15	0.924	0.920	0.923	0.922	0.924
X3.16	0.936	0.929	0.935	0.933	0.931
X3.2	0.922	0.914	0.917	0.917	0.919
X3.3	0.932	0.925	0.928	0.927	0.926
X3.4	0.915	0.913	0.913	0.912	0.909
X3.5	0.922	0.921	0.919	0.915	0.916
X3.6	0.917	0.914	0.915	0.911	0.916
X3.7	0.892	0.892	0.892	0.889	0.886
X3.8	0.905	0.902	0.901	0.902	0.898
X3.9	0.931	0.931	0.930	0.931	0.928
Y1.1	0.932	0.932	0.930	0.932	0.939
Y1.10	0.927	0.931	0.927	0.928	0.923
Y1.11	0.899	0.902	0.900	0.905	0.899
Y1.12	0.920	0.925	0.924	0.925	0.921
Y1.13	0.918	0.914	0.909	0.912	0.906
Y1.14	0.912	0.916	0.912	0.910	0.910
Y1.15	0.902	0.907	0.904	0.903	0.906
Y1.16	0.932	0.934	0.935	0.932	0.932
Y1.17	0.910	0.915	0.918	0.919	0.917
Y1.18	0.917	0.922	0.920	0.921	0.915

	Financal Technology	MSME Performance	Financial Literacy	Financial Management Behavior	Financial Attitude
Y1.19	0.923	0.927	0.921	0.917	0.920
Y1.2	0.911	0.910	0.910	0.910	0.910
Y1.20	0.921	0.926	0.923	0.924	0.919
Y1.3	0.931	0.932	0.930	0.929	0.928
Y1.4	0.908	0.916	0.913	0.914	0.910
Y1.5	0.919	0.926	0.922	0.920	0.919
Y1.6	0.906	0.915	0.910	0.909	0.911
Y1.7	0.910	0.910	0.910	0.911	0.908
Y1.8	0.916	0.918	0.914	0.915	0.912
Y1.9	0.907	0.908	0.906	0.907	0.909
Z1.1	0.925	0.918	0.923	0.924	0.923
Z1.10	0.908	0.907	0.907	0.912	0.906
Z1.11	0.924	0.921	0.925	0.924	0.922
Z1.12	0.910	0.915	0.914	0.915	0.910
Z1.13	0.918	0.919	0.918	0.920	0.917
Z1.14	0.908	0.912	0.910	0.913	0.903
Z1.15	0.913	0.914	0.908	0.913	0.909
Z1.16	0.928	0.925	0.925	0.925	0.925
Z1.17	0.921	0.921	0.925	0.924	0.926
Z1.18	0.905	0.911	0.917	0.917	0.914
Z1.19	0.911	0.914	0.917	0.920	0.916
Z1.2	0.918	0.913	0.916	0.918	0.916
Z1.20	0.904	0.910	0.907	0.909	0.904
Z1.21	0.922	0.924	0.919	0.923	0.917
Z1.22	0.889	0.886	0.888	0.891	0.889
Z1.23	0.933	0.933	0.939	0.939	0.938
Z1.24	0.936	0.940	0.940	0.942	0.936
Z1.3	0.921	0.916	0.923	0.923	0.921
Z1.4	0.907	0.907	0.909	0.912	0.906
Z1.5	0.936	0.936	0.935	0.936	0.933
Z1.6	0.904	0.915	0.906	0.908	0.905
Z1.7	0.903	0.909	0.904	0.908	0.905
Z1.8	0.917	0.922	0.921	0.923	0.923
Z1.9	0.911	0.911	0.911	0.916	0.911

Source : Data Processed by SEM-PLS (2025)

Based on the table above, it can be seen that each indicator has a *cross loading* greater than 0.7 compared to the *cross loading* value on other latent variables. So it can be concluded that the indicators on each construct are declared valid.

Average Variance Extracted Test

Table 3. AVE (*Average Variance Extraction)*

Variables	Average variance extracted (AVE)
Financal Technology	0.845
MSME Performance	0.845
Financial Literacy	0.846
Financial Management Behavior	0.845
Financial Attitude	0.844

Source : Data Processed by SEM-PLS (2025)

The table above shows the *Average Variance Extracted* (Ave) value above 0.5 for all constructs contained in the research model. So that it can be concluded that the three variables used in the study are valid.

Composite Reliability and Cronbach's Alpha

Table 4. *Composite Reliability* Results

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)
Financal Technology	0.988	0.988	0.989
MSME Performance	0.990	0.990	0.991
Financial Literacy	0.990	0.990	0.991
Financial Management Behavior	0.992	0.992	0.992
Financial Attitude	0.988	0.988	0.989

Source : Data Processed by SEM-PLS (2025)

The Composite Reliability table above shows that the Composite Reliability value for all constructs is above 0.7 which indicates that all constructs in the estimated model meet the discriminant validity criteria. Based on the Composite Reliability value in Table above, it can be concluded that all variables used in this study are Reliable. The recommended value for Cronbach's Alpha is above 0.7 (Hartono J.M., 2011), and in table 4 Cronbach's Alpha above, it shows that the Cronbach's Alpha value for all constructs is above 0.7. Based on the Cronbach's Alpha value above, it can be concluded that all the variables used in this study are reliable.

Structural Model Testing (*Inner Model*)

a.   Inner Model Evaluation through R-Square (R2)

Table 5. R Square Value

	R-square	Adjusted R-square
MSME Performance	0.996	0.996
Financial Management Behavior	0.996	0.996

Source : Data Processed by SEM-PLS (2025)

Table 5 shows the R-square and Adjusted R-square values for the MSME Performance and Financial Management Behavior variables, both of which have a value of 0.996. The R-square value, which is very close to 1, indicates that the regression model used

is able to explain almost all of the data variation in the two variables, which is 99.6%. In other words, the variables in the model are very effective in explaining the variability of MSME performance and financial management behavior. This shows the strength and suitability of the research model which is very good for predicting these two variables.

b.   Inner Model Evaluation through Q-Square (Q2)
Q-square (Q^2) is done to measure how well the observation value is produced by the model, and is intended to analyze the value of the diversity of the research data. The Q2 value or predictive relevance value of 0.02 can be categorized as weak, 0.15 is categorized as moderate, and 0.35 is said to be strong (Ghozali & Latan, 2015). The Q2 results can be seen in the calculation below:

$Q2 = 1 - (1 - R1^2) (1 - R2^2)$
$Q2 = 1 - (1 - 0.996^2) (1 - 0.996^2)$
$Q2 = 1 - (1-0.992) (1-0.992)$
$Q2 = 1 - 0.000064$
$Q2 = 0.999$
$Q2 = 99.9\%$

The results of the Q2 calculation show that the predictive relevance value obtained in the research model is 0.999 or 99.9%. The results obtained confirm that the research model can be said to be feasible because it has a data diversity that can be explained by the model of 99.9% which is included in the strong category because it has exceeded 0.35.

Hypothesis Testing
   Table 6. *Path coefficient* (mean, STDEV, T-values, p values) > 1.960 p value < 0.050

Influence	Relationship	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Direct Influence	Financial Literacy -> MSME Performance	0.237	0.238	0.093	2.557	0.011
	Financial Attitude -> MSME Performance	0.130	0.121	0.062	2.096	0.037
	Financal Technology -> MSME Performance	0.214	0.222	0.064	3.352	0.001
	Financial Literacy -> Financial Management Behavior	0.582	0.564	0.080	7.244	0.000
	Financial Attitude -> Financial	0.222	0.239	0.081	2.758	0.006

Influence	Relationship	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
	Management Behavior					
	Financal Technology -> Financial Management Behavior	0.195	0.197	0.070	2.770	0.006
	Financial Management Behavior -> MSME Performance	0.418	0.418	0.098	4.246	0.000
Indirect Effect	Financial Literacy -> Financial Management Behavior -> MSME Performance	0.243	0.235	0.063	3.873	0.000
	Financial Attitude -> Financial Management Behavior -> MSME Performance	0.093	0.101	0.044	2.109	0.036
	Financal Technology -> Financial Management Behavior -> MSME Performance	0.081	0.082	0.035	2.349	0.020

Source : Data Processed by SEM-PLS (2025)

The results of hypothesis testing show that all proposed relationships are positive and statistically significant. Financial Literacy has a positive and significant effect on MSME Performance (original sample = 0.237, T = 2.557, p = 0.011), indicating that improved financial understanding contributes to better business outcomes. Financial Attitude also positively influences MSME Performance (original sample = 0.130, T = 2.096, p = 0.037), suggesting that a constructive mindset in managing finances enhances business performance. Similarly, Financial Technology significantly improves MSME Performance (original sample = 0.214, T = 3.352, p = 0.001), as digital tools support operational efficiency. In terms of financial behavior, Financial Literacy (original sample = 0.582, T = 7.244, p = 0.000), Financial Attitude (original sample = 0.222, T = 2.758, p = 0.006), and Financial Technology (original sample = 0.195, T = 2.770, p = 0.006) each have a significant positive effect on Financial Management Behavior, indicating that knowledge, attitude, and technology adoption improve financial practices among MSMEs. Moreover, Financial Management Behavior significantly impacts MSME Performance (original sample = 0.418, T =

4.246, p = 0.000), underscoring its role as a key driver of success. Indirectly, Financial Literacy (original sample = 0.243, T = 3.873, p = 0.000), Financial Attitude (original sample = 0.093, T = 2.109, p = 0.036), and Financial Technology (original sample = 0.081, T = 2.349, p = 0.020) all significantly affect MSME Performance through Financial Management Behavior, confirming the mediating role of effective financial management in translating these factors into improved business performance.

5. Discussion

The Effect of Financial Literacy on MSME Performance
Based on the results of the analysis, it shows that the original sample value for the effect of Financial Literacy on MSME Performance is 0.237 with a T-statistic value of 2.557 which is greater than 1.96, as well as a p-value of 0.011 <0.05. This shows that Financial Literacy has a positive and significant effect on MSME Performance. In other words, the better the financial literacy of MSME actors, the performance of MSMEs will also increase. Therefore, this hypothesis is accepted.

A good level of financial literacy is very important for MSME owners in managing their finances. This is important because high knowledge of finance will help in managing the business effectively. The higher the level of financial literacy of business owners, the performance of these MSMEs also tends to increase. With improved financial literacy, it is expected that MSME owners or managers can make more informed management and financial decisions, which will ultimately contribute to the success and sustainability of the business.

Financial literacy is a person's ability and knowledge in managing finances to make smart financial decisions. For Micro, Small and Medium Enterprises (MSMEs), this is crucial because the quality of financial management determines the success of the business. The higher the level of financial literacy, the more effective financial management can be done. In addition, a high level of financial literacy in an MSME also tends to have a positive impact on its performance, showing a good relationship between financial literacy and business performance.

Based on research by Nopiyani & Indiani, (2023), it was found that financial literacy has a positive and significant impact on the performance of MSMEs. This indicates that the higher the level of financial literacy of MSME actors, the better the financial performance of the business. This is evident through the skills possessed by business actors in managing and managing their business, which in turn affects the financial health of the business and the decision-making process taken. This finding is consistent with previous research by Rusnawati & Saharuddin, (2022) and Zs et al., (2023) who also found that financial literacy has a positive impact on MSME performance.

Effect of Financial Attitude on MSME Performance

Based on the results of the analysis, it shows that the original sample value is 0.130 with a T-statistic of 2.096 (> 1.96) and a p-value of 0.037 < 0.05, indicating that Financial Attitudes have a positive and significant effect on MSME Performance. This means that a good attitude in managing finances can improve the performance of MSMEs. So that this hypothesis is accepted.

Financial attitudes refer to the mental state, views, and evaluations of individuals towards their personal finances which are reflected in behavior. Another definition states that financial attitude is the application of financial principles to generate and maintain value through appropriate decision making and resource management (Humaira, 2017).

Improved financial attitudes in business can be achieved through access to adequate financial information, which is the responsibility of financial managers in business. A manager's financial attitude plays a key role in determining policies that affect the company's financial performance, which is based on a combination of knowledge, information, and emotional aspects associated with learning, which in turn can contribute to business owners' profits (Rusnawati & Saharuddin, 2022).

Based on research conducted by Nopiyani & Indiani, (2023), it was found that financial attitudes have a positive and significant influence on the financial performance of MSMEs. These results indicate that the better the financial attitudes possessed by MSME actors, the more their financial performance will improve. A positive financial attitude allows business actors to manage their business more effectively, including in controlling thoughts and desires that can have an impact on business income. This finding is consistent with previous research by Fitria et al. (2021) and Rahayu, et al (2023), which also stated that financial attitudes play a positive and significant role in improving MSME performance.

Effect of Financial Technology on MSME Performance

Based on the results of the analysis, it shows that the original sample value is 0.214, T-statistic is 3.352 (>1.96), and p-value is 0.001 <0.05. This means that Financial Technology has a positive and significant effect on MSME performance. The use of financial technology helps MSMEs in improving their business performance. This hypothesis is accepted.

The application of financial technology (fintech) has a beneficial impact on the performance of Micro, Small and Medium Enterprises (MSMEs). This can be seen from the convenience offered in managing finances through technology and digitalization, as well as from the acceleration of the transaction process. In addition, fintech also provides alternative funding that can replace conventional financial services from banks. These benefits together play a role in improving the performance of MSMEs.

Innovation in the application of financial technology also plays a role in making it easier for MSMEs to process payments and manage finances. Through fintech, MSMEs can monitor and manage business finances more efficiently. Rohmanto & Susanti, (2021) state that fintech can help MSME players by providing convenience and efficiency in technology-based financial management, including in terms of online payments and loans.

Research conducted by Fitriasandy & Anam, (2021), confirms that Financial Technology has a positive and significant influence on the performance of MSMEs. Financial Technology is considered to provide significant convenience in supporting business because it is more effective, efficient, and easy to apply. MSME players consider the transparency of financial history, including incoming and outgoing money, when making payment transactions through Financial Technology in their business operations. Analysis of the results shows that Financial Technology is able to increase MSME revenue as product demand from customers continues to increase. This shows that the proper use of Financial Technology by MSMEs contributes to the improvement of their performance.

The results of this study are in line with previous research conducted by Rohmanto & Susanti, (2021) and Utami and Sitanggang (2021), which show that financial technology has a positive impact on MSME performance. The use of financial technology provides convenience in financial management through technology and digitization, speeds up transactions and provides alternative funding options as a substitute for traditional financial services from banks. These benefits can overall improve the performance of Micro, Small and Medium Enterprises (MSMEs). This finding is in line with the results of research conducted by (Rahayu et al., 2023) and Sari (2022), which confirmed that financial technology has a positive impact on MSME performance.

The Effect of Financial Literacy on Financial Management Behavior
Based on the results of the analysis, it shows that the Original sample value is 0.582 with a very high T-statistic of 7.244, and a p-value of 0.000 <0.05, indicating a positive and very significant effect of Financial Literacy on Financial Management Behavior. This means that MSME actors who have good financial literacy tend to have good financial management behavior as well.

Financial literacy is an essential competency for individuals to effectively manage their personal finances. With a solid understanding of various aspects of personal finance such as record-keeping and budgeting, banking services, use of credit, saving and borrowing, tax payments, and essential expenses, as well as a deep understanding of aspects such as insurance, investment, and pension funds (Hamdani, 2018). One can manage their finances wisely. Financial literacy is not only related to money management, but also has a broad impact on the economy as a whole. Individuals who have a high level of financial literacy have a tendency to make better decisions in their

lives, which in turn can contribute to the improvement of their economic stability (Amelia, 2022).

Financial literacy is an essential need for businesses to avoid financial problems. A high level of financial literacy is expected to help businesses manage their finances effectively (Gunawan et al., 2021). This suggests that individuals who have a good level of financial literacy tend to be more careful in planning their finances and making the right financial decisions for their businesses.

According to research conducted by Dayanti and team in 2020, it was found that financial literacy has a significant influence on the financial management behavior of MSME business actors. This study focused on MSME entrepreneurs in the fashion sector in Malang Regency, which showed that their level of financial literacy was very good. This enables them to make effective management and financial decisions to improve their business performance and development. These results are consistent with the findings of other studies by Nurjanah et al. (2022), and Fatimah et al. (2023), which also confirm that financial literacy has a positive impact on financial management behavior.

Effect of Financial Attitude on Financial Management Behavior
Based on the results of the analysis, it shows that the original sample value is 0.222, T-statistic is 2.758 (>1.96), and p-value is 0.006 <0.05, indicating that financial attitudes have a positive and significant effect on financial management behavior. A positive attitude in managing finances encourages good financial management behavior.

Financial attitudes reflect the way individuals manage their personal finances, which can be evaluated through responses to statements or views, as described by Pradiningtyas & Lukiastuti (2019). On the other hand, financial management behavior describes individual actions in handling personal financial affairs, which can be measured through concrete steps taken by the individual, as explained by Humaira, (2017). Therefore, a person's financial management behavior is influenced by his financial attitude. People who wisely manage their personal financial matters tend to show good management behavior.

Attitudes towards finance play an important role in guiding businesses in implementing effective financial management. By having a positive financial attitude, business people will be better able to make the right financial decisions, which reflect mature thinking about financial aspects. The presence of a positive financial attitude will encourage business people to adopt more effective and efficient financial management behavior. Thus, every business actor can improve the quality of their financial management by having a good financial attitude.
Research conducted by Dayanti, et al (2020), confirms that financial attitudes have a significant and positive impact on financial management behavior. This means that a person's attitude will affect the way they behave, both positively and negatively, which

becomes a benchmark for how their behavior is formed. A good financial attitude has a positive and significant influence on the way a person manages their finances. This indicates that positive behavior will elicit a good response, while negative behavior will result in an unfavorable response from others. This finding is in line with other studies conducted by Safitri et al., (2023), and Herdiansyah et al., (2023), which also show that financial attitudes have a positive and significant impact on financial management behavior.

The Effect of Financial Technology on Financial Management Behavior
Based on the results of the analysis, it shows that the original sample value is 0.195, T-statistic is 2.770, and p-value is 0.006 <0.05, meaning that Financial Technology has a positive and significant effect on Financial Management Behavior. The use of financial technology helps MSME players to manage finances better.

Financial technology, or fintech, is the integration of financial management with technology, as explained by Marginingsih (2021). Fintech includes digital banking services that allow MSMEs to access banking services through mobile applications. It provides convenience in conducting various financial transactions, payments, and account management online. In addition, fintech also includes peer-to-peer lending services, where MSMEs can obtain loans directly from individual or institutional investors, without going through a complicated process as offered by traditional banks. This allows for easier access to capital for MSMEs. Lastly, fintech also includes accounting software that provides MSMEs with affordable and easy-to-use solutions in managing their financial books more efficiently and accurately.

According to research conducted by Mukti et al. (2022), the results of significance analysis show that fintech has a positive and significant impact on financial behavior. The development of fintech brings a number of positive benefits, such as facilitating access to financial services and products through smartphone devices or gadgets owned by users, and increasing usage efficiency due to affordable costs. In addition, fintech also simplifies various financial activities such as transactions, investments, savings, and others. This finding is in line with the findings of research conducted by (Akbar et al., 2023), which also concluded that financial technology has a positive impact on financial management behavior.

Indirect Effect of Financial Literacy through Financial Management Behavior on MSME Performance
Based on the results of the analysis, the original sample value for this indirect effect is 0.243, the T-statistic is 3.873 (> 1.96), and the p-value is 0.000 < 0.05. This shows that Financial Literacy indirectly affects MSME Performance through Financial Management Behavior with a significant effect.
Healthy financial management behavior is reflected in good financial planning, management and control activities. The level of wisdom in managing personal finances is highly dependent on one's knowledge and ability to understand financial concepts, known as financial literacy. When a person experiences difficulties in

managing finances, it is often due to a lack of planning, limited financial knowledge, and consumptive behavior. Therefore, financial literacy is very important to help a person plan their finances and optimize the value of their money. This finding is in accordance with research conducted by Rosa and Listiadi (2020).

Financial literacy also influences the way individuals perceive their financial situation and affects the strategic decisions made in their financial management. With adequate financial literacy, individuals tend to have more directed financial management, which in turn will have a positive impact on their business. These results are in line with research conducted by Anggraeni (2016).

Research by Yulianto & Rita, (2023) states that financial management behavior mediates the effect of financial literacy on performance. Financial literacy is important for understanding basic financial principles, including income management, spending, financial goal planning, emergency financial arrangements, savings in banks, investment strategies such as deposits and stocks, and knowledge of insurance (Lianto and Elizabeth, 2017). Individuals who have financial knowledge usually show positive financial management behaviors, such as planning personal financial management, recording all financial transactions, and saving for retirement (Kumar et al., 2017). Financial management behaviors in business owners are related to their ability to control spending, manage debt, and save to make good financial decisions. They tend to repay loans on time to maintain their business continuity (Wise, 2013). With good financial literacy, business owners can be more directed in managing their company's finances, which in turn will have a positive impact on the company. This is in line with research by Hutauruk et al. (2024) that financial management behavior mediates the effect of financial literacy on MSME performance.

Indirect Effect of Financial Attitude through Financial Management Behavior on MSME Performance
Based on the results of the analysis, it shows that the Original sample value is 0.093, T-statistic is 2.109 and p-value is 0.036 <0.05 indicating that Financial Attitudes also have a significant indirect effect on MSME Performance through Financial Management Behavior.

Financial attitudes play an important role in shaping individual financial behavior. A positive financial attitude can make a significant contribution in helping to make wise financial decisions and reflects a mature mindset regarding finance. People who have a positive financial attitude will take into account the future, can manage financial situations efficiently, organize the allocation of funds as needed, maintain a balance between income and expenses, set aside funds for savings and investment, and make the right decisions regarding capital structure Rohmanto & Susanti, (2021).

Individuals with positive financial attitudes generally exhibit a proactive mindset with regard to future finances. They have an awareness of the importance of managing finances wisely and have the ability to control the urge to make impulsive or

unnecessary purchases. Thus, they are more inclined to make rational decisions and prioritize long-term financial goals over instant gratification (Nurjanah et al., 2022). Financial attitudes have an important role in shaping a person's personality in managing their finances and how they deal with daily financial problems. The more positive a person's financial attitude, generally the wiser they are in responding to financial challenges, which is reflected in their ability to make the right financial decisions in their lives, especially in terms of personal financial management (Safitri et al., 2023).

The actions chosen will be reflected in the way individuals manage their finances, which are reflected in various aspects such as consumption management, budgeting, controlling expenses to be in line with income, settling bills, selecting types of savings and investments for the future, and so on (Herdiansyah, 2023). By managing finances effectively, businesses can improve their business performance.

The Indirect Effect of Financial Technology through Financial Management Behavior on MSME Performance
Based on the results of the analysis, it shows that the original sample value is 0.081, T-statistic is 2.349, and p-value is 0.020 <0.05 indicating a positive and significant indirect effect of Financial Technology on MSME Performance through Financial Management Behavior.

Most MSMEs are managed individually by owners who also act as managers, so the time to make financial reports feels limited (Herawati et al., 2019). The use of fintech in MSME businesses allows owners to more easily manage their finances and track every transaction more efficiently (Wardani and Darmawan, 2020). Good financial reports are very important for MSME players because they can help them obtain capital loans from financial institutions, such as through the Kredit Usaha Rakyat program, and also provide an overview of the financial health of their business (Pakpahan, 2020). In other words, financial reports and records can be an important indicator in assessing business success.

Pakpahan (2020) also stated that the quality of financial statements has an important impact on the performance of Micro, Small, and Medium Enterprises (MSMEs). Therefore, while the use of fintech may not directly affect business performance, it can facilitate effective financial management practices. This can then contribute to the achievement of good business performance for MSME players.
Research conducted by Yulianto & Rita, (2023), concluded that financial management behavior can act as a mediator between the influence of *financial technology* on the performance of MSMEs. This shows that the use of fintech in payments is very beneficial for them in managing their daily finances. The higher the level of use and the perceived benefits of using fintech, the better financial management, which in turn can help them in making financial decisions.

According to Yoo and Fisher (2017), frequent use of fintech payment services can significantly increase the level of better financial management for individuals. Fintech facilitates financial management by providing payment applications, which allow individuals to perform a number of activities such as transaction payments, income and expenditure monitoring, and saving. With the various conveniences that fintech offers in financial management, digitization of internal operations and processes can be enhanced, performance effectiveness and efficiency can be improved, business models can be re-engineered, and business continuity can be ensured (Akpan et al., 2021).

6. Conclusions

This study concludes that Financial Literacy, Financial Attitudes, and Financial Technology have a positive and significant effect on MSME Performance. The better the financial literacy of MSME actors, the higher their business performance. A positive financial attitude contributes significantly to business success by promoting wiser financial decision-making. Furthermore, the use of financial technology—such as digital payment applications and online investment platforms—enhances operational efficiency and competitiveness, thereby improving MSME performance.

In addition, Financial Literacy, Financial Attitudes, and Financial Technology also have a positive and significant influence on Financial Management Behavior. MSME actors with strong financial literacy tend to adopt more effective and structured financial management practices. A positive financial attitude fosters financial discipline, while the adoption of financial technology supports more efficient and consistent financial behavior.

The study also finds that Financial Management Behavior serves as a mediating variable in the relationship between Financial Literacy, Financial Attitudes, and Financial Technology and MSME Performance. This indicates that the improvement in MSME performance not only comes directly from these variables but also indirectly through enhanced financial management behavior.

Based on these findings, future research is recommended to expand the geographic scope of the study to provide a more comprehensive view of MSME financial behavior across regions. Longitudinal studies are also encouraged to examine the long-term effects of these variables. Future research may explore moderating variables such as age, gender, educational level, or business sector to deepen the analysis of individual differences. Further studies should also investigate the specific impact of various types of financial technology—such as e-wallets, peer-to-peer lending, or crowdfunding—on MSME performance. Incorporating behavioral and psychological aspects such as risk tolerance or motivation could also enhance understanding. Lastly, integrating government policies and financial literacy programs into the research would be valuable for formulating more effective MSME empowerment strategies.

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