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The Influence of Financial Literacy, Financial Inclusion, and Financial Technology on the Financial Performance of MSMEs with Financial Management Behavior as a Mediating Variable (Study on MSMEs in the Agriculture, Culinary, and Tourism Sectors in Subang Regency, West Java)

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A B S T R A C T

This study examines the influence of financial literacy, financial inclusion, and financial technology (fintech) on the financial performance of MSMEs, with financial management behavior as the mediating variable. The study was conducted on MSMEs in the agricultural, culinary, and tourism sectors in Subang Regency, West Java. Adopting a quantitative explanatory approach, this study collected data from 250 purposively sampled respondents and analyzed it using SmartPLS 4's PLS-SEM. The results indicate that financial management behavior is significantly shaped by financial literacy ($\beta = 0.513$; $p = 0.006$) and, even more strongly, by financial inclusion ($\beta = 0.681$; $p < 0.001$), while financial technology shows no significant direct effect. Neither variable directly affects MSME financial performance in a practically meaningful way; however, financial management behavior is the dominant predictor of financial performance ($\beta = 0.726$; $p < 0.001$; $R^2 = 0.614$). Financial management behavior plays a significant mediating role in how financial literacy influences financial performance (0.481; $p = 0.006$) and the effect of financial inclusion on financial performance (0.549; $p < 0.001$), but not the effect of financial technology. These findings confirm that financial management behavior is the critical bridge between financial resources knowledge and access and actual business performance, supporting a knowledge behavior performance chain model for rural MSMEs in Indonesia.

KATA KUNCI

Literasi Keuangan, Inklusi Keuangan, *Financial Technology*, Perilaku Manajemen Keuangan, Kinerja Keuangan UMKM

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A B S T R A K

Penelitian ini bertujuan menguji pengaruh literasi keuangan, inklusi keuangan, dan fintech terhadap kinerja keuangan UMKM, dengan perilaku manajemen keuangan berperan sebagai mediator. Penelitian dilakukan pada UMKM sektor pertanian, kuliner, dan pariwisata di Kabupaten Subang, Jawa Barat. Menggunakan pendekatan kuantitatif eksplanatori, Pengumpulan data dilakukan terhadap 250 responden dengan metode *purposive sampling*, kemudian dianalisis memakai pendekatan *Partial Least Squares Structural Equation* Modeling (PLS-SEM) via perangkat lunak SmartPLS 4. Berdasarkan analisis, diperoleh hasil bahwa literasi keuangan ($\beta = 0{,}513$; $p = 0{,}006$) dan inklusi keuangan ($\beta = 0{,}681$; $p < 0{,}001$) berpengaruh signifikan terhadap perilaku manajemen keuangan, sementara *financial technology* tidak terbukti berpengaruh signifikan secara langsung. Literasi maupun inklusi keuangan tidak memiliki pengaruh langsung yang bermakna secara praktis terhadap kinerja keuangan UMKM; namun, perilaku manajemen keuangan menjadi prediktor dominan kinerja keuangan ($\beta = 0{,}726$; $p < 0{,}001$; $R^2 = 0{,}614$). Perilaku manajemen keuangan terbukti memediasi pengaruh literasi keuangan terhadap kinerja keuangan (efek tidak langsung = 0,481; $p = 0{,}006$) dan pengaruh inklusi keuangan terhadap kinerja keuangan (efek tidak langsung = 0,549; $p < 0{,}001$), namun tidak memediasi pengaruh *financial technology* secara signifikan. Temuan ini menegaskan peran sentral perilaku manajemen keuangan sebagai jembatan antara sumber daya keuangan baik pengetahuan (literasi) maupun akses (inklusi) dengan kinerja usaha nyata, mendukung model rantai pengetahuan–perilaku–kinerja bagi UMKM perdesaan di Indonesia.

1. Introduction

1.1. Research Background

Micro, Small, and Medium Enterprises (MSMEs) are a strategic sector and serve as the backbone of the Indonesian economy. According to the Ministry of MSMEs of the Republic of Indonesia, the number of MSMEs in Indonesia exceeds 65 million business units, contributing 61.07% to national Gross Domestic Product (GDP), and absorbing approximately 97% of the national workforce, or more than 119 million workers [1]. In West Java Province, MSMEs are spread across all regencies and cities, including Subang Regency, which has a strategic geographical position as a connector of the Pantura route, is located near Bandung as the provincial capital and DKI Jakarta, and is also the location of national strategic projects such as Patimban Port and the Subang Smartpolitan Industrial Estate.

Based on data from Statistics Indonesia of Subang Regency, the total number of MSME actors in Subang Regency was recorded at 22,079 business actors comprise 17,676 micro (80.06%), 3,521 small (15.95%), and 882 medium enterprises (3.99%) [2]. Subang is known as an agribusiness region with leading commodities such as rice, coffee, tea, cloves, and horticultural products. In addition, the tourism sector has grown rapidly, with flagship destinations such as Sari Ater Hot Spring, Ciater Tea Plantation, Mount Tangkuban Perahu (northern side), and Cibeusi Tourism Village, which support local MSMEs in culinary, craft, fashion, and service sectors.

Despite this considerable potential, MSMEs in Subang Regency continue to face classic financial management problems. A study found that limited adoption of digital technology is a major challenge for Subang MSMEs, marked by manual production processes, conventional business management, and marketing reach that remains limited to the local scale [3]. Many MSME actors in Subang still mix personal and business finances, do not prepare bookkeeping records regularly, face difficulties accessing formal financing, and have limited capacity to utilize digital financial services. This condition is worsened by low financial literacy and gaps in financial technology adoption among rural MSME actors.

The 2024 SNLIK, released by OJK and BPS, revealed that Indonesia's financial literacy index was only 65.43%, while its financial inclusion index reached 75.02% [4]. The 9.59% gap between inclusion and literacy indicates that the public, including MSME actors, has used financial products and services but has not fully understood the characteristics, risks, rights, and obligations attached to those products. This condition is more serious in agrarian regions such as Subang Regency, where most MSME actors are located in rural areas and have more limited access to formal financial education than urban MSMEs.

From the perspectives of Resource-Based View (RBV) and behavioral finance, organizational financial performance is not determined only by the availability of financial resources, but also by managerial capability in managing financial knowledge, accessing financial services, adopting financial technology, and implementing sound financial management behavior [5]. Financial literacy encompasses a blend of knowledge, skills, confidence, attitudes, and behavior regarding financial products [4]. A high level of financial literacy empowers MSME actors to make rational financial decisions and manage cash flow effectively, avoid consumptive debt, and plan productive investments [6].

Financial inclusion, on the other hand, refers to the ease of access to and use of formal financial products and services that are safe, affordable, and of good quality [7]. For MSMEs in Subang Regency, access to formal financial institutions is essential because many business actors operate in the agricultural sector, which requires seasonal working capital. The partnership program between Bank BJB and farmer groups in Subang through a core-plasma agricultural scheme is one example of financial inclusion efforts that are relevant to regional characteristics. A study proved that financial inclusion mediates the relationship between financial literacy and MSME performance [8], while other one reported that financial inclusion, financial technology, and risk management significantly affect the financial performance of food and beverage MSMEs [9].

Financial technology (fintech) has fundamentally changed the financial services landscape. Innovations such as digital wallets, QRIS payments, peer-to-peer lending, paylater services, crowdfunding, and digital bookkeeping applications have provided broader financial access for MSME actors who were previously unbanked or underbanked [10]. However, the benefits of fintech will not be optimal without adequate financial literacy and disciplined financial management behavior. For Subang MSMEs, fintech adoption, particularly QRIS and digital bookkeeping applications, represents a strategic opportunity to improve transaction efficiency, especially for culinary and craft MSMEs that serve many tourists in the Ciater area and surrounding regions. Studies showed that financial technology adoption has a positive and significant impact on SME financial performance [11], [12].

Financial management behavior is the key that connects financial knowledge and access with actual performance. A recent study emphasized that financial management behavior is an important mediator between digital financial literacy and financial success [13]. Similarly, different study found the mediating

role of financial behavior in the relationship between digital financial literacy and financial performance among MSMEs in the tourism sector, which is highly relevant to the characteristics of Subang MSMEs as an agribusiness and tourism region [14].

Although studies on financial literacy, financial inclusion, fintech, and MSME performance have been widely conducted, several research gaps remain. First, theoretically, previous studies tend to examine these variables partially or in bipartite models, while only limited studies integrate the three main determinants (financial literacy, financial inclusion, and fintech) with financial management behavior as a mediator in a comprehensive model. Second, empirically, previous research findings show inconsistencies. Third, contextually, studies on MSMEs in Subang Regency with a combination of three leading sectors (agriculture/agribusiness, culinary, and tourism) remain very limited, even though the characteristics of Subang MSMEs as an agrarian region and domestic tourism destination create financial management dynamics that differ from MSMEs in urban economic centers.

Based on this background and these gaps, this study aims to analyze the influence of financial literacy, financial inclusion, and financial technology on MSME financial performance, with financial management behavior as mediator among MSMEs in the agriculture, culinary, and tourism sectors in Subang Regency. This study is expected to contribute to the development of behavioral financial management theory and serve as a practical reference for policy stakeholders (OJK, the Ministry of MSMEs, the Office of Cooperatives, MSMEs, Trade and Industry of Subang Regency) and MSME actors in improving business financial performance.

1.2. Theoretical Review

1.2.1. Resource-Based View (RBV)

Resource-Based View (RBV) was introduced by Wernerfelt [15] and developed comprehensively by Barney [16]. This theory views sustainable competitive advantage as being determined not by external market power, but by internal resources that are valuable, rare, inimitable, and non-substitutable (the VRIN framework). These resources include tangible assets (financial capital, technology, infrastructure) and intangible assets (knowledge, skills, managerial capability, and reputation) that are heterogeneous and difficult for competitors to imitate [16], [17].

In the MSME context, RBV positions financial literacy, financial inclusion, and the capability to use financial technology as strategic resources that can improve financial performance. Financial literacy is a knowledge resource that is valuable and relatively rare among rural MSME actors; financial inclusion represents access to financial resources; while financial technology represents a technological capability that strengthens operational efficiency. These three resources do not automatically generate performance. They must be managed through managerial capability, in this case financial management behavior, so that they can be transformed into competitive advantage and sustainable financial performance [5].

1.2.2. Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) explains that a person's behavior comes from their intention, and that intention is shaped by three things: their attitude toward the behavior, what they think others expect of them (subjective norms), and how much control they feel they have over the behavior (perceived behavioral control) [18]. In the financial domain, TPB is widely used to explain financial management behavior, in which financial knowledge is reflected in attitude, while confidence in the ability to manage finances is reflected in perceived behavioral control [19], [20].

TPB is relevant for explaining why financial literacy, financial inclusion, and financial technology can encourage healthy financial management behavior among MSME actors. Financial knowledge and access shape positive attitudes and self-efficacy among business actors in managing cash flow, credit, savings, and investments, which are ultimately manifested in actual financial behavior [21]. Researcher also emphasized that TPB is open to the addition of other predictors as long as they have adequate theoretical and empirical foundations, making it possible to integrate financial literacy, financial inclusion, and financial technology into one model [18].

1.2.3. Behavioral Finance Theory

Behavioral finance is a branch of finance that integrates psychological and economic perspectives to explain that financial decisions are not always rational as assumed in classical finance theory. This theory highlights the influence of cognitive and emotional factors on financial decision-making by individuals and business actors. In the MSME context, behavioral finance explains that possessing financial knowledge (literacy) and financial access (inclusion) does not necessarily produce optimal performance unless it is accompanied by disciplined and controlled financial behavior [22].

A study empirically demonstrated that financial inclusion and financial technology positively influence the behavioral finance of MSME actors, with financial technology serving as a mediator between financial inclusion and financial behavior [22]. This finding justifies the positioning of financial management behavior as a mediating variable in the current study, bridging the determinants of financial knowledge and access with actual MSME financial performance.

1.2.4. Financial Literacy

Financial literacy is defined as a blend of knowledge, skills, confidence, attitudes, and behavior toward financial products and services that shapes the quality of financial decisions and management [4]. When MSME actors possess adequate financial literacy, they are able to make rational financial decisions, manage cash flow, avoid consumptive debt, and plan productive investments, thereby positively affecting business performance [6]. Study found that financial literacy significantly contributes to greater financial inclusion and more rational decision-making, which has implications for MSME financial performance [5]. In this study, financial literacy is measured through four dimensions: basic financial knowledge, financial skills, financial attitude, and confidence in financial institutions [4], [6].

1.2.5. Financial Inclusion

Financial inclusion refers to ease of access to and use of formal financial products and services that are safe, affordable, and of good quality for all groups in society, including MSME actors [7]. A study examined the relationship among digital financial inclusion, digital financial literacy, and demographic factors in Indonesia emphasized that access to and use of formal financial services are key to enhancing financial well-being [7].

For MSMEs in Subang Regency, most of which operate in the agricultural sector with seasonal working capital needs, financial inclusion is a strategic resource. A study proved that financial inclusion mediates the relationship between financial literacy and MSME performance [8], while other one found that financial inclusion significantly affects MSME financial performance [9]. In this study, financial inclusion is measured through four dimensions: access, usage, service quality, and financial well-being [4], [7].

1.2.6. Financial Technology

Financial technology (fintech) refers to the use of digital technology innovation in the provision of financial services, including digital payments, digital wallets, QRIS, peer-to-peer lending, paylater services, crowdfunding, and digital bookkeeping applications [10]. Fintech can expand financial access for unbanked and underbanked groups, including MSME actors who previously faced difficulties in accessing formal financial services [10].

When SMEs adopt financial technology, it significantly boosts their financial performance [11]. However, the benefits of fintech will not be optimal without financial literacy and disciplined financial behavior. The measurement of financial technology in this study adapts constructs from the Technology Acceptance Model (TAM), covering perceived usefulness, perceived ease of use, usage frequency, and user trust [10], [11].

1.2.7. Financial Management Behavior

Financial management behavior refers to the behavior of individuals or business actors in managing financial resources, including planning, organizing, monitoring, and controlling finances. This study adds financial planning and risk management dimensions according to the MSME context [12], [13].

Financial management behavior is a big deal as a mediator between digital financial literacy and financial success [13]. Financial behavior plays a mediating role linking digital financial literacy to financial performance in tourism MSMEs [14]. Financial literacy shapes financial behavior through financial attitudes and lifestyle, which really cements financial management behavior as a central factor in boosting MSME performance [21].

1.2.8. MSME Financial Performance

MSME financial performance is the result of business achievement measured from financial and operational aspects within a specific period. Common indicators of MSME financial performance include income growth, profit growth, asset growth, cost efficiency, and business sustainability [5], [9]. Due to limited availability of formal financial statements among MSMEs, this study measures financial performance using subjective or perceptual measures from business actors with a Likert scale, as commonly used in SEM-PLS-based MSME studies [23].

1.3. Hypothesis Development

1.3.1. The Influence of Financial Literacy on Financial Management Behavior

Within the TPB framework, financial knowledge shapes attitudes and perceived behavioral control that encourage healthy financial behavior [18], [19]. A study proved that financial literacy significantly affects the financial behavior of MSME actors. MSME actors with high literacy tend to be more disciplined in recording cash flow, separating personal and business finances, and managing credit prudently [21]. Therefore, the following hypothesis is formulated:

H1: Financial literacy has a significant influence on the financial management behavior of MSMEs in Subang Regency.

1.3.2. The Influence of Financial Inclusion on Financial Management Behavior

Access to formal financial services gives MSME actors the means to implement better financial behavior, such as saving, obtaining scheduled financing, and using financial products in a planned manner. A study found that financial inclusion has a positive effect on the

behavioral finance of MSME actors [22]. Therefore, the following hypothesis is formulated:

H2: Financial inclusion has a significant influence on the financial management behavior of MSMEs in Subang Regency.

1.3.3. The Influence of Financial Technology on Financial Management Behavior

The use of financial technology such as QRIS, digital wallets, and digital bookkeeping applications enables MSME actors to record transactions and manage finances more systematically. Study confirmed the role of fintech in shaping MSME financial behavior [22]. Therefore, the following hypothesis is formulated:

H3: Financial technology has a significant influence on the financial management behavior of MSMEs in Subang Regency.

1.3.4. The Influence of Financial Literacy on Financial Performance

As a knowledge resource in the RBV framework, financial literacy enables rational financial decision-making that affects performance. Studies found a positive influence of financial literacy on MSME performance [5], [6]. Therefore, the following hypothesis is formulated:

H4: Financial literacy has a significant influence on the financial performance of MSMEs in Subang Regency.

1.3.5. The Influence of Financial Inclusion on Financial Performance

Access to financing and formal financial services provides working capital that supports business growth. Studies found a significant influence of financial inclusion on MSME performance [8], [9]. Therefore, the following hypothesis is formulated:

H5: Financial inclusion has a significant influence on the financial performance of MSMEs in Subang Regency.

1.3.6. The Influence of Financial Technology on Financial Performance

Fintech adoption improves transaction efficiency, expands customer reach, and accelerates fund receipt. A study proved that fintech has a positive and significant influence on SME financial performance [11]. Therefore, the following hypothesis is formulated:

H6: Financial technology has a significant influence on the financial performance of MSMEs in Subang Regency.

1.3.7. The Influence of Financial Management Behavior on Financial Performance

Good financial management behavior, such as regular recording, financial separation, credit management, and planning, directly contributes to business efficiency and sustainability [12], [13]. Therefore, the following hypothesis is formulated:

H7: Financial management behavior has a significant influence on the financial performance of MSMEs in Subang Regency.

1.3.8. The Mediating Role of Financial Management Behavior

In line with RBV and behavioral finance perspectives, knowledge and financial access resources need to be transformed through financial behavior in order to generate performance. Studies proved the mediating role of financial behavior in the relationship between financial literacy and MSME performance [13], [14]. Based on this logic, three mediation hypotheses are formulated:

H8: Financial management behavior mediates the influence of financial literacy on the financial performance of MSMEs in Subang Regency.

H9: Financial management behavior mediates the influence of financial inclusion on the financial performance of MSMEs in Subang Regency.

H10: Financial management behavior mediates the influence of financial technology on the financial performance of MSMEs in Subang Regency.

2. Research Method

2.1. Research Approach and Type

This study uses a quantitative approach with an explanatory research design. The objective is to test causal relationships among variables and explain the mechanisms through which independent variables affect the dependent variable, both directly and through a mediating variable [23]. The variables examined are qualitative latent constructs that are converted into quantitative data through a structured questionnaire using a five-point Likert scale.

2.2. Research Location and Period

The research was conducted in Subang Regency, West Java Province, focusing on MSME actors operating in three leading regional sectors: agriculture/agribusiness (including food processing), culinary business, and tourism (homestays, crafts, and tourism support services). The research area covered strategic subdistricts in Subang Regency, such as Subang City, Jalan Cagak (Ciater), Sagalaherang, Tanjungsiang, Pagaden, and Kalijati. The research period was planned for six months, starting from preparation, questionnaire distribution, data processing, and report writing.

2.3. Research Population and Sample

The population in this study consists of all MSME actors in Subang Regency, totaling 22,079 business actors, with a composition of 17,676 micro enterprises,

3,521 small enterprises, and 882 medium enterprises [2]. This study focuses on MSMEs operating in agriculture/agribusiness (including food processing), culinary business, and tourism as the three leading regional sectors.

The sample size was determined based on Hair guidelines for Partial Least Squares-based Structural Equation Modeling (SEM-PLS), namely at least 10 times the number of indicators in the construct with the largest number of indicators [23]. This study uses 15 indicators in the financial management behavior construct, so the minimum required sample size is 150 respondents. To strengthen data representation and accommodate the possibility of incomplete questionnaires, the researchers targeted 250 respondents proportionally distributed across the three leading sectors.

2.4. Sampling Technique

The sampling technique used is purposive sampling with the following criteria: (1) MSME actors have operated for at least two years; (2) they are registered with the Office of Cooperatives, MSMEs, Trade and Industry of Subang Regency or have a Business Identification Number (NIB); (3) they operate in the agriculture/agribusiness sector (including local food processing), culinary business, or tourism; (4) they are located within Subang Regency; and (5) they are willing to participate as respondents and complete the questionnaire in full.

2.5. Data Types and Sources

This study uses primary and secondary data. Primary data were obtained directly from respondents through questionnaire distribution. Secondary data were obtained from publications by OJK (SNLIK 2024), Statistics Indonesia of Subang Regency, the Ministry of MSMEs of the Republic of Indonesia, the Office of Cooperatives, MSMEs, Trade and Industry of Subang Regency, and recent scientific journals from 2024 to 2025.

2.6. Data Collection Technique

Data collection was conducted through a combination of: (1) direct offline distribution of structured questionnaires at respondents' business locations, considering that some MSME actors in Subang Regency are located in rural areas with limited internet access; (2) online questionnaire distribution through Google Forms for respondents in urban areas; (3) short interviews with several key respondents to enrich contextual understanding; and (4) documentation studies of relevant secondary data.

2.7. Data Analysis

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4 software. PLS-SEM was selected because it can accommodate complex models with mediator variables, does not require strict normality assumptions, and focuses on prediction [24]. The analysis was carried out in two stages: (1) measurement model evaluation to test construct validity and reliability, and (2) structural model evaluation to test the research hypotheses.

Before the main analysis, data screening was conducted to identify missing data, outliers using Mahalanobis distance, and invalid response patterns. Common method bias was evaluated using Harman's single factor test, which showed that a single factor explained 38.2% of the variance (< 50%), indicating that common method bias was not a serious concern in this study [25].

2.8. Research Instrument

The research instrument was a structured questionnaire consisting of two parts. Part I contained respondent demographic data, and Part II contained statements to measure each research variable using a five-point Likert scale. The questionnaire consisted of 55 statement items in total: 10 items for financial literacy, 10 items for financial inclusion, 10 items for financial technology, 15 items for financial management behavior, and 10 items for MSME financial performance.

3. Result and Discussion

3.1. Measurement Model Evaluation

Table 1 presents the measurement model evaluation results, including factor loading, composite reliability (CR), Cronbach's Alpha (CA), and Average Variance Extracted (AVE). A good measurement model should have CR values between 0.6 and 0.7, CA values above 0.6 (or > 0.7), and AVE values above 0.5 [24], [26]. Based on these criteria, this study has met the reliability requirements, with satisfactory CA, CR, and AVE values for all variables. The highest outer loadings were found in KK_5 (0.925) for Financial Performance, FT_6 (0.915) for Financial Technology, IK_8 (0.912) for Financial Inclusion, PMK_2 (0.898) for Financial Management Behavior, and LK_3 (0.880) for Financial Literacy. These results indicate that consistent growth in total business assets, the use of QRIS/e-wallet for business transactions almost every day, the ability to meet requirements for accessing formal financial products, the ability to separate personal and business finances, and understanding the differences among assets, liabilities, and business capital are the strongest indicators of each construct.

Table 1. Evaluation of Measurement Models

Variable	Dimensions	Item Total	Range Loading	CA	CR	AVE
Financial Literacy (X1)	Basic Financial Knowledge	3	0.850-0.880	0.945	0.956	0.669
	Financial Skills	3	0.651-0.878			
	Financial Attitude	2	0.838-0.871			
	Confidence in Financial Institutions	2	0.730-0.749			
Financial Inclusion (X2)	Access	2	0.682-0.907	0.941	0.945	0.660
	Usage	3	0.750-0.905			
	Service Quality	3	0.796-0.912			
	Financial well-Being (Welfare)	2	0.702-0.719			
Financial Technology (X3)	Perception of Benefit (Perceived Usefulness)	3	0.625-0.912	0.961	0.963	0.746
	Perception of Ease (Perceived Ease of Use)	2	0.890-0.908			
	Frequency of Use (Usage Frequency)	3	0.763-0.915			
	Trust	2	0.887-0.912			
Financial Management Behavior (Mediation)	Cash Flow Management	3	0.815-0.898	0.955	0.960	0.622
	Credit Management	3	0.648-0.881			
	Savings and Investment management	3	0.685-0.883			
	Financial Planning	3	0.650-0.894			
	Risk Management	3	0.649-0.812			
Financial Performance of MSMEs (Y)	Income Growth	2	0.640-0.874	0.950	0.955	0.698
	Profit Growth	2	0.640-0.874			
	Asset Growth	2	0.877-0.925			
	Cost Efficiency	2	0.870-0.925			
	Business Sustainability	2	0.861-0.922			

3.2. Structural Model Evaluation

Figure 1 presents the structural model testing results, illustrating the relationships among constructs and their path coefficients. Financial Literacy, Financial Inclusion, and Financial Technology have direct relationships with Financial Management Behavior and Financial Performance. Financial Inclusion has the most dominant role in shaping Financial Management Behavior, followed by Financial Literacy. This indicates that the conveniences obtained by MSME actors, combined with knowledge, skills, confidence, attitudes, and behavior toward financial products and services, are an important foundation in shaping how business actors manage financial resources, including planning, organizing, monitoring, and controlling their finances.

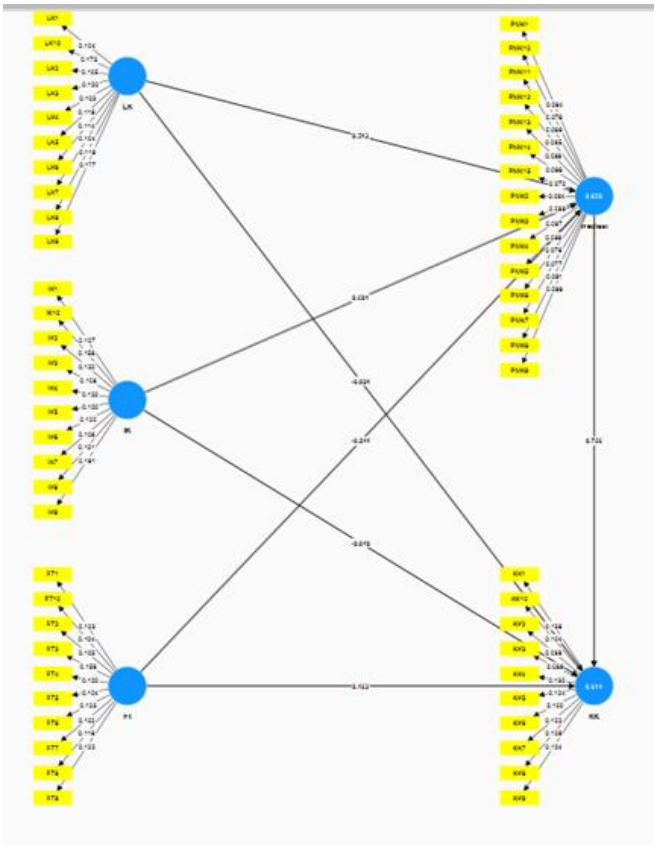

Figure 1. Structural Model of Research

3.3. Inner Model

The R2 value for Financial Performance is in the moderate category, reflecting the model's moderate ability to explain variation in the construct, meaning that the variation is still influenced by other factors outside the model. Based on Table 2, The R2 value for Financial Management Behavior is in the strong category, reflecting the model's strong ability to explain variation in the construct.

Table 2. R-Square

Item	R2	R2 Adjusted	Information
Financial Performance	0.614	0.608	Moderate
Financial Management Behavior	0.858	0.856	High

3.4. Hypothesis Testing

The result of hypothesis testing can be seen on Table 3.

Table 3. Research Hypothesis Testing Summary

Hypothesis	Relationship	Path Coefficient	P-Value	R2	f2	Result
H1	LK → PMK	0.513	0.006	0.628	0.224	Accepted
H2	IK → PMK	0.681	0.000	0.492	1.354	Accepted
H3	FinTech → PMK	0.244	0.357	-	0.064	Rejected
H4	LK → KK	0.024	0.006	-	0.000	Rejected
H5	IK → KK	0.048	0.000	-	0.001	Rejected
H6	FinTech → KK	0.163	0.351	-	0.010	Rejected
H7	PMK → KK	0.726	0.000	0.581	0.194	Accepted
H8	LK → PMK → KK (Indirect)	0.481	0.006	0.821	-	Accepted (Partial Mediation)
H9	IK → PMK → KK (Indirect)	0.549	0.000	0.694	-	Accepted (Partial Mediation)
H10	FinTech → PMK → KK (Indirect)	0.174	0.351	0.351	-	Rejected

*Information: ** p<0.01, * p<0.05*

H1: Financial literacy has a significant influence on the financial management behavior of MSMEs in Subang Regency. (Accepted)

The test results show that financial literacy has a positive and significant effect on the financial management behavior of MSMEs in Subang Regency, with a path coefficient of 0.513 (p = 0.006; f2 = 0.224). The f2 value of 0.224 indicates a medium effect size [27], meaning that financial literacy contributes substantively to shaping the financial behavior of MSME actors. Thus, H1 is accepted. MSME actors in Subang Regency who have a better understanding of basic financial concepts such as cash flow management, asset-liability differences, and financial planning tend to implement more disciplined and structured financial management behavior, in line with the TPB prediction that knowledge shapes attitudes that drive behavior [18], [21].

H2: Financial inclusion has a significant influence on the financial management behavior of MSMEs in Subang Regency. (Accepted)

The H2 test produced a path coefficient of 0.681 with a p-value < 0.001 and a very large effect size (f2 = 1.354), making financial inclusion the strongest predictor of financial management behavior in this model. H2 is accepted. This large effect indicates that access to and use of formal financial services, such as savings accounts, people's business credit, and digital banking services, substantially encourage Subang MSME actors to manage their business finances in a more orderly, planned, and responsible manner. This is relevant to the context of Subang Regency, where financial inclusion programs in the agricultural sector have been shown to improve financial discipline among business actors, in line with a study before [22].

H3: Financial technology has a significant influence on the financial management behavior of MSMEs in Subang Regency. (Rejected)

The H3 test results show a path coefficient of 0.244 with a p-value of 0.357 (not statistically significant) and a small effect size (f2 = 0.064). H3 is rejected. These findings indicate that the use of fintech applications such as QRIS, digital wallets, and digital bookkeeping platforms among Subang MSME actors has not directly created meaningful changes in financial management behavior. Most MSME actors in Subang adopt fintech more as a transactional payment tool than as a comprehensive financial management instrument; therefore, financial behavior transformation has not occurred substantively. This represents an adoption gap that needs to be addressed through a deeper fintech literacy program.

H4: Financial literacy has a significant influence on the financial performance of MSMEs in Subang Regency. (Rejected)

The H4 test shows a very small path coefficient (beta = 0.024) with a negligible effect size (f2 = 0.000), indicating that the direct effect of financial literacy on MSME financial performance has no practical significance. H4 is rejected. This does not mean that financial literacy is unimportant; rather, its effect on performance is indirect and requires financial management behavior as a mediator. In other words, financial knowledge alone is insufficient to improve business performance unless it is manifested in daily financial management practice, a finding consistent with the behavioral finance perspective that the behavioral gap between knowledge and action is critical [22].

H5: Financial inclusion has a significant influence on the financial performance of MSMEs in Subang Regency. (Rejected)

The H5 test shows a path coefficient of 0.048 with an almost zero effect size (f2 = 0.001), indicating the absence of a practically meaningful direct effect of financial inclusion on MSME financial performance. H5 is rejected. This finding confirms that access to formal financial services does not automatically improve business performance. Access to credit and new financial products contributes to performance only when accompanied by the ability of MSME actors to manage and utilize those financial resources optimally, a process mediated by the quality of their financial management behavior, as explained in the RBV perspective [16].

H6: Financial technology has a significant influence on the financial performance of MSMEs in Subang Regency. (Rejected)

The H6 test produced a path coefficient of 0.163 with a p-value of 0.351 (not significant) and f2 = 0.010 (small effect). H6 is rejected. This means that the use of fintech by Subang MSME actors is not directly correlated with improved business financial performance. This is understandable because fintech adoption in agrarian areas such as Subang is still at an early stage, where financial technology is used mainly for transaction convenience rather than as a strategic tool for increasing income growth, cost efficiency, or business sustainability in a structured manner. This finding differs from study which may have studied MSMEs in a more mature fintech ecosystem [11].

H7: Financial management behavior has a significant influence on the financial performance of MSMEs in Subang Regency. (Accepted)

H7 is the hypothesis with the strongest empirical support in this study. The path coefficient of 0.726 ($p < 0.001$; f2 = 0.194) indicates that financial management behavior is the dominant and significant predictor of MSME financial performance in Subang Regency. H7 is accepted. The f2 value of 0.194 falls into the medium to large effect category, showing that MSME actors who consistently record cash flow, separate personal and business finances, manage credit prudently, and plan finances regularly are able to achieve better income, profit, and asset growth [23]. The R2 value of financial performance, 0.614, confirms the model's ability to explain 61.4% of the variation in MSME performance, with financial management behavior as the main driver.

H8: Financial management behavior mediates the influence of financial literacy on the financial performance of MSMEs in Subang Regency. (Accepted - Partial Mediation)

The H8 indirect effect test produced a coefficient of 0.481 ($p = 0.006$), proving that financial management behavior mediates the relationship between financial literacy and MSME financial performance. H8 is accepted. With the direct effect of financial literacy on performance being practically insignificant (beta = 0.024; f2 = 0.000) but the indirect effect being substantial (0.481), this pattern illustrates a strong mediation mechanism: financial knowledge generates performance only when it is transformed into real financial action. This finding extends and confirms studies before, which found the mediating role of financial behavior in the relationship between digital financial literacy and MSME performance [13], [14].

H9: Financial management behavior mediates the influence of financial inclusion on the financial performance of MSMEs in Subang Regency. (Accepted - Partial Mediation)

The H9 test results show an indirect effect of 0.549 ($p < 0.001$), making it the strongest mediation path in this research model. H9 is accepted. This indirect effect, which is larger than H8, confirms that financial inclusion affects performance predominantly through the formation of better financial behavior. Subang MSME actors with greater access to formal finance tend to develop financial discipline, which then leads to sustainable business performance growth. This finding contributes new evidence that complements study before [8]. In this study, financial inclusion is positioned not as a mediator, but as an antecedent that is mediated by financial behavior toward performance.

H10: Financial management behavior mediates the influence of financial technology on the financial performance of MSMEs in Subang Regency. (Rejected)

The H10 test produced an indirect effect of 0.174 with a p-value of 0.351 (not significant), so H10 is rejected. Because the direct FinTech to Financial Management Behavior path (H3) is also insignificant, the mediation path FinTech to Financial Management Behavior to Performance logically fails to be proven in this context. This indicates that, in the context of Subang MSMEs, fintech utilization has not been able to change financial management behavior in a way that improves performance. This condition is consistent with fintech adoption in rural areas that remains limited to payment functions, so the full potential of fintech as an enabler of MSME financial transformation has not yet been fully realized.

3.5. Discussion

This discussion section critically examines the meaning behind each hypothesis finding, connecting the statistical test results with the theoretical foundation and empirical evidence from previous studies. Overall, the pattern of findings shows that financial management behavior occupies a central position as the

bridge between financial resources (knowledge and access) and actual business performance.

H1: The Influence of Financial Literacy on Financial Management Behavior.

The confirmation of H1 (beta = 0.513; p = 0.006) strengthens the theoretical argument in the Theory of Planned Behavior that knowledge and confidence regarding financial products shape positive attitudes, which ultimately encourage better financial intentions and behavior [18]. In the context of Subang MSMEs, the strongest indicator of financial literacy is the understanding of the difference among assets, liabilities, and business capital (outer loading = 0.880), which represents the cognitive foundation for sound financial management. MSME actors who can distinguish business assets from personal assets, for example, are more likely to separate accounts and record transactions systematically.

This result is consistent with study which proved that financial literacy significantly affects financial behavior through financial attitudes and lifestyle [21], as well as study which found digital financial literacy as a predictor of MSME financial behavior [13]. However, the medium effect size (f2 = 0.224) suggests that other factors influence financial behavior beyond literacy, and the H2 findings show that financial inclusion plays a much larger role.

H2: The Influence of Financial Inclusion on Financial Management Behavior.

The H2 finding with f2 = 1.354 is the most striking result in this study. From the Resource-Based View perspective, formal financial access is a financial resource that provides MSME actors with a concrete arena for practicing financial discipline [16], [17]. When a Subang MSME actor obtains People's Business Credit (KUR), the actor does not only receive capital; the actor also learns to manage installments, prepare simple financial reports for banking purposes, and plan cash flow to ensure timely repayment.

The contextual relevance of this finding is very high. Subang Regency has agrarian characteristics that require seasonal capital for the agricultural sector, and financial inclusion programs through partnerships with Bank BJB, BRI Village Units, and Agribusiness Microfinance Institutions (LKMA) in Subang have been shown to improve business actors' financial discipline. This is consistent with other study, which proved that financial inclusion positively affects MSME behavioral finance [22]. The magnitude of the effect (f2 = 1.354, far exceeding Cohen's 0.35 large-effect threshold) confirms that financial inclusion is the most effective intervention in shaping MSME financial behavior in this context [27].

H3: Financial Technology and Financial Management Behavior.

The rejection of H3 (beta = 0.244; p = 0.357) is a theoretically challenging finding. On the one hand, different study found that fintech positively affects MSME behavioral finance [22]. On the other hand, this study shows a different pattern in the context of rural MSMEs in Subang. The explanation lies in the depth of fintech adoption: Subang MSME actors use QRIS and digital wallets almost every day (outer loading FT_6 = 0.915, the highest), but this use is limited to transaction functions, namely making and receiving payments, without truly using financial management features such as automatic reports, expense categorization, or installment reminders.

This phenomenon illustrates what can be called surface adoption versus deep adoption of fintech. MSMEs that adopt fintech only at the surface level without integrating it into their financial management system will not experience meaningful financial behavior transformation. This opens a future research agenda to explore whether more management-oriented fintech, such as AI-based accounting applications, has different effects on the financial behavior of rural MSMEs.

H4 and H5: The Absence of Direct Effects on Performance.

The rejection of H4 (f2 = 0.000) and H5 (f2 = 0.001) is theoretically valuable, even though it may contradict the initial intuition. In RBV, resources (financial literacy and financial inclusion) create competitive value only when they are managed through appropriate capabilities [16]. This finding empirically confirms that financial knowledge and financial access are necessary conditions, but not sufficient conditions, for improving financial performance.

The behavioral finance perspective strengthens this interpretation: there is a real behavioral gap between possession of financial resources and actual performance [22]. An MSME actor may understand the importance of managing cash flow but still fail to practice it because of psychological and situational barriers. Similarly, credit access without good financial management may worsen business conditions due to poor ability to manage financial obligations. Therefore, efforts to improve MSME performance cannot stop at increasing literacy or expanding inclusion; they must continue toward financial behavior transformation.

H6: Financial Technology and Financial Performance.

The insignificant FinTech to Financial Performance path (H6: beta = 0.163; p = 0.351) is consistent with the rejection of H3. If fintech does not change financial behavior, then it also does not generate performance change. This finding differs from study which found a positive influence of fintech on SME financial performance [11], and from study which found that

fintech significantly affects financial performance among food and beverage MSMEs [9]. This difference indicates contextual heterogeneity: urban culinary MSMEs with high digital transaction intensity may experience different fintech effects from agrarian rural MSMEs in Subang that are still in the early stage of adoption.

H7: Financial Management Behavior as the Engine of Performance.

With the largest coefficient (beta = 0.726) and the highest level of significance ($p < 0.001$), H7 confirms the position of financial management behavior as the main determinant of MSME financial performance. This is an empirical validation of the Financial Management Behavior Scale: orderly cash flow management, prudent credit management, planned savings and investment, and risk management jointly build a strong foundation for financial performance [12].

The strongest indicator of financial performance is total business asset growth (outer loading KK_5 = 0.925), which reflects the ability of MSME actors to accumulate business wealth consistently. In the Subang MSME context, asset growth may include the addition of agricultural equipment, expansion of processing land, increase in culinary production capacity, or development of tourism facilities. All of these are possible only when supported by sound and planned financial management. This finding strengthens study which found a direct influence of financial behavior on the performance of tourism-sector MSMEs [14].

H8 and H9: Proven Mediation Mechanisms.

The mediation findings for H8 (indirect effect = 0.481; $p = 0.006$) and H9 (indirect effect = 0.549; $p < 0.001$) reveal a complete and coherent causal mechanism in this research model. This mediation pattern can be interpreted as follows: financial literacy and financial inclusion build the capability and opportunity for MSME actors to behave better financially; when this good financial behavior is realized in daily practice, the result is measurable improvement in financial performance.

The indirect effect of H9 (0.549), which is greater than H8 (0.481), confirms that formal financial access (inclusion) has a stronger impact in this causal chain than financial knowledge (literacy). This is consistent with the argument that doing (access and practice) has a greater influence than knowing (knowledge) in shaping financial capabilities that generate performance. These mediation findings enrich the existing literature, which have proven financial behavior mediation in the literacy-performance relationship, while this study adds similar evidence for the financial inclusion-performance relationship, which represents an original contribution to MSME financial management research [13], [14].

H10: The Limited Role of Fintech in the Mediation Chain.

The rejection of H10 (indirect effect = 0.174; $p = 0.351$) completes the picture of fintech's position in this model: fintech is insignificant both in shaping financial behavior (H3) and in producing direct performance (H6), so the mediation path through financial management behavior is also not proven. This differs from study which found fintech as a mediator of the effect of financial inclusion on MSME financial behavior [22]. The difference emphasizes the importance of considering geographical context, digital ecosystem maturity, and MSME sector characteristics when generalizing fintech-related findings.

Overall, the pattern of findings in this study describes a model that can be called a knowledge-behavior-performance chain for rural MSMEs: financial access and financial knowledge must first be transformed into actual financial behavior before they can produce measurable performance. Although fintech is promising, it requires a more mature ecosystem, especially digital literacy and user assistance, before it can enter this value chain and strengthen the relationship among financial inclusion, financial behavior, and MSME performance.

4. Conclusion

This study examines how financial literacy, inclusion, and fintech affect MSME performance through financial management behavior among 250 Subang MSMEs. Findings show that literacy and inclusion significantly improve financial behavior, while fintech does not. Neither literacy nor inclusion directly boosts performance without behavior as a mediator. Behavior strongly drives performance but fails to bridge fintech and performance, confirming that the knowledge-behavior-performance model fits better than the technology-performance model for rural MSMEs. Theoretically, this study contributes by integrating resource-based view, theory of planned behavior, and behavioral finance to show financial management behavior as a dynamic capability transforming resources into performance. This positions behavior as a dynamic capability that turns resources into results, shifts fintech research toward contextual conditions like digital literacy and infrastructure, and validates a behavior scale tailored to agrarian and tourism MSMEs. Practically, MSMEs should adopt consistent financial habits, authorities must pair credit access with hands-on training, fintech programs should go beyond payments to include management features, banks should integrate financial education into lending, and agricultural training must adapt to seasonal cycles with strategies for reserves, receivables, and income diversification to ensure lasting impact.

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