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Financial Literacy, Capital Structure, and Financial Planning as Determinants of MSME Sustainability: Mediating Role of Profitability

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ABSTRACT

Micro, Small, and Medium Enterprises (MSMEs) in Papua face significant sustainability challenges, particularly in the early years of operation, due to limitations in financial management practices. This study examines the direct and indirect effects of financial literacy, capital structure, and financial planning on MSME sustainability, with profitability as a mediating variable. A quantitative explanatory approach was employed using data from 200 MSMEs selected through purposive sampling. The analysis was conducted using Structural Equation Modeling–Partial Least Squares (SEM-PLS). The results indicate that capital structure and financial planning have positive and significant effects on profitability, while financial literacy shows a negative significant effect. Profitability, in turn, has a strong positive influence on sustainability and mediates the relationships between financial variables and MSME sustainability. The findings suggest that, in certain contexts, higher financial literacy may lead to more conservative financial behavior, which can reduce short-term profitability and indirectly affect sustainability outcomes. This study contributes to the literature by providing an integrated model of MSME sustainability and highlighting the context-dependent role of financial literacy. However, the findings should be interpreted with caution due to the use of cross-sectional and self-reported data. The results offer practical implications for policymakers and practitioners in designing financial development programs that balance risk management and profit optimization to support sustainable MSME growth.

Keywords: *Financial Literacy, Capital Structure, Financial Planning, Profitability, MSME Sustainability*

1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) play a strategic role in Indonesia's economic development because they dominate the national business structure, contribute substantially to Gross Domestic Product (GDP), and absorb a large proportion of the workforce. Nationally, MSMEs contribute more than 60% to GDP and account for nearly all employment absorption, making them the backbone of the Indonesian economy (Badan Pusat Statistik [BPS], 2025; Widita et al., 2024). Despite this contribution, MSMEs continue to face significant sustainability challenges, particularly related to limited access to finance, weak managerial capability, inadequate financial records, and insufficient long-term planning. These structural weaknesses increase the likelihood of business failure, especially during the early years of operation (Babajide et al., 2023; Hidayat-ur-Rehman, 2024).

In Papua, the sustainability challenges of MSMEs are even more complex due to unique regional characteristics. Papua is characterized by geographical dispersion, high logistics costs, limited infrastructure, and unequal access to financial institutions. These conditions create structural constraints that differentiate Papua from more developed regions such as Java and Sumatra. Empirical reports indicate that MSMEs in Papua face challenges related to capital access, market reach, and operational efficiency, which directly affect their business continuity (BPS Papua, 2025; Tolossa et al., 2024). Therefore, Papua provides a critical and underexplored

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empirical setting for examining how financial capability and financial management practices influence MSME sustainability.

This study is grounded in the Resource-Based View (RBV), Trade-Off Theory, and Pecking Order Theory. From the RBV perspective, financial literacy and financial planning represent intangible resources that enable MSME owners to make informed financial decisions, optimize resource allocation, and improve business resilience (Barney, 1991; Hidayat-ur-Rehman, 2024). Financial literacy enhances the ability to manage cash flow, evaluate investment opportunities, and control financial risk, while financial planning supports budgeting, cost efficiency, and long-term financial strategy (Abdallah et al., 2024; Yeo et al., 2024). These capabilities are expected to improve firm performance and sustainability through better financial management practices.

Capital structure is explained through Trade-Off Theory and Pecking Order Theory, which emphasize the importance of financing decisions in determining firm performance. Trade-Off Theory suggests that firms balance the benefits of debt financing, such as tax advantages, against the costs of financial distress (Kraus & Litzenberger, 1973; Ahmed et al., 2023). Meanwhile, Pecking Order Theory posits that firms prefer internal financing over external financing due to information asymmetry and transaction costs (Myers & Majluf, 1984). In the MSME context, an optimal capital structure is crucial because excessive debt may increase financial risk, while insufficient financing may limit business expansion and profitability (Kim et al., 2023; Nguyen et al., 2023).

Although financial literacy, capital structure, and financial planning have been widely studied, most prior research examines these variables independently or in partial combinations. Limited studies have integrated these financial determinants into a comprehensive model that explains MSME sustainability through profitability, particularly in developing regions such as Papua (Al Koliby et al., 2024; Hossain et al., 2025; Nugraha et al., 2025). This gap is important because sustainability is not solely determined by financial capability or financing decisions, but by whether these factors can effectively generate profitability. Profitability plays a central role because it provides MSMEs with the financial capacity to maintain operations, invest in innovation, and sustain long-term growth (Amoughin et al., 2025; Burcă et al., 2024).

Another critical gap concerns the assumption that financial literacy always has a positive effect on business performance. While many studies report a positive relationship between financial literacy and profitability, emerging evidence suggests that this relationship may vary depending on context. In uncertain environments, financially literate MSME owners may adopt more conservative financial behavior, such as avoiding debt, limiting investment, and prioritizing liquidity over profit maximization. This risk-averse behavior may protect business survival but can also reduce short-term profitability (Diptyana et al., 2022; Wediawati et al., 2025). Therefore, the relationship between financial literacy, profitability, and sustainability requires deeper empirical investigation.

Based on these gaps, this study aims to analyze the effects of financial literacy, capital structure, and financial planning on MSME sustainability in Papua, with profitability as a mediating variable. The contribution of this study lies in three aspects. First, it develops an integrated empirical model linking financial literacy, capital structure, financial planning, profitability, and sustainability. Second, it highlights the mediating role of profitability in translating financial capability into business sustainability. Third, it provides empirical evidence from Papua, an underexplored regional context with unique structural and economic characteristics. The findings are expected to contribute to the development of MSME sustainability theory and provide practical implications for policymakers, financial institutions, and MSME development programs (Kurniasari et al., 2025; Singh et al., 2024; Siregar et al., 2025).

2. Literature Review

Financial Literacy

Financial literacy refers to an individual's ability to understand, evaluate, and apply financial knowledge in managing cash flow, debt, investment, and financial risk (Lusardi & Mitchell, 2014). Within the MSME context, financial literacy is considered a critical intangible resource that enhances managerial capability and supports better financial decision-making, consistent with the Resource-Based View (Barney, 1991; Hidayat-ur-Rehman, 2024). A substantial body of literature suggests that financial literacy positively influences MSME performance. Financially literate entrepreneurs are better able to allocate resources efficiently, access financial services, and manage financial risks, which ultimately improves profitability and business sustainability (Babajide et al., 2023; Abdallah et al., 2024). In addition, financial literacy strengthens financial inclusion and facilitates access to formal financial institutions, further supporting business growth (Masrizal et al., 2025). However, empirical findings are not entirely consistent. Several studies report that financial literacy may produce unexpected or even negative effects under certain conditions. Diptyana et al. (2022) and Wediawati et al. (2025) argue that higher financial literacy may encourage risk-averse behavior, where MSME owners prioritize financial stability over aggressive growth. Such behavior may reduce investment, limit the use of external financing, and constrain expansion strategies, thereby suppressing short-term profitability. This inconsistency indicates that the effect of financial literacy is context-dependent, particularly in environments characterized by uncertainty, limited infrastructure, and constrained market access, such as Papua. Therefore, financial literacy does not automatically guarantee higher profitability, but rather shapes financial behavior that may either enhance or constrain business performance.

Capital Structure

Capital structure refers to the proportion of debt and equity used to finance a firm's operations and investments (Myers, 1984). According to Trade-Off Theory, firms seek to balance the benefits of debt, such as tax advantages, with the costs of financial distress (Kraus & Litzenberger, 1973). Meanwhile, Pecking Order Theory suggests that firms prioritize internal financing over external funding due to information asymmetry and financing costs (Myers & Majluf, 1984). Empirical studies generally support a positive relationship between optimal capital structure and profitability. Efficient leverage allows firms to expand operations, improve capital utilization, and increase returns (Ahmed et al., 2023; Kim et al., 2023). Briones et al. (2024) further highlight that effective capital structure management enhances financial performance through improved working capital efficiency. Nevertheless, this relationship is not always linear. Excessive reliance on debt may increase financial risk, interest burdens, and vulnerability to economic shocks, thereby reducing profitability (Pant et al., 2024). This suggests that the impact of capital structure on profitability depends on the firm's ability to manage leverage effectively and maintain financial balance.

Financial Planning

Financial planning is the systematic process of budgeting, forecasting, and allocating financial resources to achieve short-term and long-term business objectives (Yeo et al., 2024). In MSMEs, financial planning plays a crucial role in ensuring efficient resource utilization, cost control, and risk management. Prior studies generally indicate that financial planning positively influences financial performance. Effective planning enables MSMEs to optimize cash flow, anticipate financial risks, and make informed investment decisions, thereby enhancing profitability (Rany et al., 2024; Sevriana et al., 2024). Furthermore, financial planning supported by financial literacy and financial inclusion strengthens business resilience and sustainability (Kyeyune & Ntayi, 2025). However, some studies suggest that the effectiveness of financial

planning depends on environmental conditions. In highly dynamic or uncertain markets, overly rigid planning may reduce flexibility and limit responsiveness to changing market conditions (Yeo et al., 2024). Despite these limitations, financial planning remains a key driver of MSME financial performance.

Profitability and MSME Sustainability

Profitability reflects a firm's ability to generate earnings and is a key determinant of long-term business sustainability. From a financial perspective, sustainable firms must maintain consistent profitability to support reinvestment, operational continuity, and strategic growth (Burcă et al., 2024). Empirical evidence consistently shows that profitability has a positive effect on business sustainability. Firms with higher profitability are better positioned to invest in innovation, improve operational efficiency, and expand market opportunities (Amoughin et al., 2025; Nguyen et al., 2023). However, profitability alone does not automatically guarantee sustainability, as its impact depends on how profits are allocated and reinvested. Thus, profitability functions as a critical mechanism linking financial management practices to sustainability outcomes.

Mediating Role of Profitability

The mediating role of profitability is grounded in mediation theory (Baron & Kenny, 1986), which posits that independent variables can influence dependent variables indirectly through an intervening variable. In this study, financial literacy, capital structure, and financial planning are expected to influence MSME sustainability through profitability. Previous studies support this mechanism. Babajide et al. (2023) and Muchlis et al. (2024) demonstrate that financial capability influences sustainability through financial performance. Similarly, Mensah et al. (2025) show that capital structure affects firm growth and sustainability through profitability. However, the mediating role of financial literacy remains underexplored, particularly in contexts where financial literacy may reduce profitability due to conservative financial behavior. Unlike prior studies that assume a uniformly positive role of financial literacy, this study explicitly incorporates the possibility of a negative indirect effect through profitability. This approach provides a more nuanced and context-sensitive understanding of MSME financial behavior in emerging economies.

Financial Literacy on Profitability

Financial literacy enables MSME owners to manage cash flow, optimize cost structures, and make informed financial decisions (Bharathithasan & Srinivasan, 2024; Rahadi et al., 2023). Empirical studies generally find that financial literacy improves profitability by enhancing financial efficiency and facilitating access to financing (Demu, 2023; Mohapatra et al., 2025). However, several studies also suggest that financial literacy may lead to more conservative financial behavior, such as reduced risk-taking and limited business expansion, which may constrain short-term profitability (Diptyana et al., 2022; Wediawati et al., 2025). Therefore, the relationship between financial literacy and profitability may vary depending on the business context.

H1: *Financial literacy has a significant effect on MSME profitability*

Capital Structure on Profitability

Capital structure reflects the proportion of debt and equity financing used by a firm (Kim et al., 2023). According to Trade-Off Theory, the optimal use of debt can enhance firm value through tax advantages, whereas excessive leverage may increase financial risk and reduce profitability (Ahmed et al., 2023; Nguyen et al., 2023).Empirical evidence suggests that a balan ced capital structure improves profitability by optimizing capital costs and supporting business growth.

H2: *Capital structure positively influences MSME profitability*

Financial Planning on Profitability

Financial planning enables firms to forecast financial conditions, manage costs, and allocate resources efficiently (Wang, 2024; Rany et al., 2024). Well-structured financial planning enhances financial control and supports improved profitability. However, its effectiveness may depend on environmental stability and the quality of implementation.

H3: *Financial planning positively influences MSME profitability*

Profitability on MSME Sustainability

Profitability represents a firm's ability to generate earnings and sustain operations over time. Firms with higher profitability are better positioned to invest in innovation, improve competitiveness, and ensure long-term sustainability (Kim et al., 2023; Nguyen et al., 2023).

H4: *Profitability positively influences MSME sustainability*

Mediating Role of Profitability

According to mediation theory (Baron & Kenny, 1986), independent variables may influence dependent variables both directly and indirectly through a mediating variable. In this study, profitability is expected to mediate the relationships between financial literacy, capital structure, financial planning, and MSME sustainability. Previous studies support the mediating role of financial performance in linking financial capability and business sustainability (Babajide et al., 2023; Mensah et al., 2025; Muchlis et al., 2024).

H5a: *Profitability mediates the relationship between financial literacy and MSME sustainability*

H5b: *Profitability mediates the relationship between capital structure and MSME sustainability*

H5c: *Profitability mediates the relationship between financial planning and MSME sustainability*

3. Methods

This study employed a quantitative explanatory research design to examine the causal relationships among financial literacy, capital structure, and financial planning (independent variables) and MSME sustainability (dependent variable), with profitability acting as a mediating variable. A quantitative approach was selected due to its ability to test hypotheses objectively through statistical inference. A cross-sectional design was applied, allowing data collection at a single point in time to capture the current conditions of MSMEs (Creswell, 2018).

The research was conducted in Papua Province, Indonesia, where MSMEs play a significant role in regional economic development across sectors such as culinary, creative industries, and agribusiness. Papua was selected due to its diverse MSME characteristics and relatively underexplored empirical context, making it suitable for examining financial behavior and sustainability dynamics.

The population of this study refers to MSMEs registered in Papua Province based on official administrative data. While government reports indicate a large number of MSMEs, the exact figure may vary depending on classification and data updating processes. Therefore, this study focuses on active and accessible MSMEs that meet the research criteria rather than relying solely on aggregate population statistics.

A purposive sampling technique was employed to ensure data relevance and quality. The inclusion criteria were: (1) MSMEs operating for at least three years, (2) having basic financial records (cash inflows and outflows), and (3) willingness of the owner or manager to participate. To enhance representativeness, the sample was proportionally drawn from multiple business sectors, including culinary, trade, services, and agribusiness, across several districts in Papua.

Following the recommendation of Hair et al. (2019), the minimum sample size for PLS-SEM is 5–10 times the number of indicators. With 25 indicators, the minimum required sample was 125. This study collected data from 200 MSMEs, which exceeds the minimum requirement and is considered adequate for structural model estimation and mediation testing.

Primary data were collected using structured questionnaires distributed both offline (field visits) and online (Google Forms). The questionnaire used a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Secondary data were obtained from official government reports, the Central Statistics Agency (BPS), and relevant academic literature.

To ensure measurement quality, content validity was established through expert judgment involving academics and practitioners. A pilot test was conducted with 30 MSMEs, and the results indicated that all constructs achieved acceptable reliability levels, with Cronbach's alpha values exceeding 0.70, confirming the internal consistency of the instrument.

The operationalization of variables was adapted from prior validated studies. Financial literacy was measured using indicators related to financial knowledge, budgeting ability, and financial decision-making. Capital structure was measured through debt-equity composition and financing strategies. Financial planning was assessed through budgeting, forecasting, and financial control practices. Profitability was measured using perceived financial performance indicators such as revenue growth and profit adequacy, while MSME sustainability was evaluated based on business continuity, growth, and adaptability indicators.

To address potential common method bias (CMB) due to self-reported data, several procedural and statistical remedies were applied. Procedurally, anonymity and confidentiality were assured to respondents to reduce evaluation apprehension. Statistically, Harman's single-factor test was conducted, and the results indicated that no single factor accounted for the majority of variance, suggesting that common method bias was not a serious concern.

Data analysis was performed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0. This method was chosen due to its suitability for complex models, mediation analysis, and non-normal data distribution (Hair et al., 2019).

The analysis consisted of three stages:

1. Measurement Model (Outer Model): evaluated using factor loadings (>0.70), Average Variance Extracted (AVE ≥ 0.50), Composite Reliability and Cronbach's Alpha (>0.70), and discriminant validity using Fornell–Larcker and Heterotrait–Monotrait (HTMT) criteria.
2. Structural Model (Inner Model): assessed using R^2 values, bootstrapping with 5,000 resamples at a 5% significance level, path coefficients, and indirect effects to test mediation relationships. Multicollinearity was examined using Variance Inflation Factor (VIF), with values below 5 indicating no critical collinearity issues.
3. Model Fit and Predictive Relevance: evaluated using Standardized Root Mean Square Residual (SRMR < 0.08), Normed Fit Index (NFI > 0.90), and predictive relevance (Q^2) to assess model robustness.

These procedures ensure the validity, reliability, and robustness of the proposed model in testing the research hypotheses.

4. Result and Discussion

Characteristics of Respondents

This section presents the demographic and business characteristics of the respondents involved in this study. Understanding respondent profiles is essential to provide context for interpreting the empirical findings, particularly in relation to financial behavior and business sustainability among MSMEs in Papua. The characteristics examined include gender, age, education level, business sector, and business duration. These variables are considered relevant as they may influence financial decision-making, access to resources, and overall business performance.

The distribution of respondents reflects the diversity of MSME actors in Papua across various sectors and levels of experience. By presenting these characteristics, the study ensures transparency in sample representation and allows for a more comprehensive understanding of the research context. The detailed distribution of respondent characteristics is presented in Table 1.

Table 1. Respondent Characteristics

No	Characteristics	Category	Frequency	Percentage (%)
1	Gender	Male	118	59.0
		Female	82	41.0
2	Age	< 30 years	36	18.0
		30–40 years	74	37.0
		41–50 years	58	29.0
		> 50 years	32	16.0
3	Education Level	Junior High School	22	11.0
		Senior High School	96	48.0
		Diploma	38	19.0
		Bachelor's Degree	44	22.0
4	Business Sector	Culinary	82	41.0
		Trade	46	23.0
		Services	38	19.0
		Agribusiness	34	17.0
5	Business Duration	3–5 years	92	46.0
		6–10 years	68	34.0
		> 10 years	40	20.0
	Total		200	100%

Source: Primary data processed by the authors (2025).

The characteristics of respondents indicate that the majority of MSME owners in this study are male (59%), while female entrepreneurs account for 41%. In terms of age distribution, most respondents fall within the productive age group of 30–40 years (37%), followed by 41–50 years (29%), suggesting that MSMEs in Papua are largely managed by individuals in their prime working age.

Regarding education level, the majority of respondents have completed senior high school (48%), followed by those with a bachelor's degree (22%) and diploma (19%). This finding implies that most MSME actors possess moderate educational backgrounds, which may influence their financial decision-making capabilities.

From a sectoral perspective, the culinary sector dominates (41%), followed by trade (23%), services (19%), and agribusiness (17%). This reflects the economic structure of MSMEs in Papua, which is largely driven by consumption-based and service-oriented activities.

In terms of business experience, most MSMEs have been operating for 3–5 years (46%), indicating that the sample primarily consists of relatively young but established businesses. Meanwhile, 34% have operated for 6–10 years, and 20% have more than 10 years of experience.

This suggests that most MSMEs in the sample are within the micro to small business scale but have demonstrated stable financial performance.

Measurement Model Evaluation

Convergent Validity

Convergent validity in a reflective measurement model was assessed by examining the outer loading values of each indicator. A reflective indicator is considered acceptable when its loading value exceeds 0.70. This threshold indicates that the indicator contributes substantially to explaining the latent variable.

Table 2. Outer Loadings (Measurement Model)

Indicator	Capital Structure	Financial Literacy	Financial Planning	Profitability	Sustainability
CS1	0.960				
CS2	0.953				
CS3	0.958				
CS4	0.962				
FL1		0.940			
FL2		0.952			
FL3		0.942			
FL4		0.949			
FL5		0.942			
FL6		0.963			
FP1			0.910		
FP2			0.922		
FP3			0.911		
FP4			0.926		
FP5			0.921		
FR1				0.925	
FR2				0.922	
FR3				0.891	
FR4				0.923	
FR5				0.927	
STB1					0.932
STB2					0.939
STB3					0.936
STB4					0.930
STB5					0.925

Source: Primary data processed by the authors (2025).

Table 2 shows that all indicators have loading values above 0.70, indicating that the measurement model satisfies convergent validity. However, most loading values exceed 0.90. Although high loading values indicate strong indicator reliability, values that are uniformly very high may also suggest possible item redundancy or conceptual overlap among indicators. Therefore, the results indicate strong convergent validity, but they should be interpreted cautiously because several indicators may measure highly similar aspects of the same construct.

Discriminant Validity

Discriminant validity was first assessed using the Fornell–Larcker criterion. In this approach, the square root of the Average Variance Extracted (AVE) for each construct should be higher than its correlation with other constructs.

Table 3. Discriminant Validity Score (Fornell–Larcker Criterion)

Construct	Capital Structure	Financial Literacy	Financial Planning	Profitability	Sustainability
Capital Structure	0.958				
Financial Literacy	0.947	0.948			
Financial Planning	0.919	0.965	0.918		
Profitability	0.938	0.918	0.953	0.918	
Sustainability	0.949	0.982	0.978	0.947	0.932

Source: Primary data processed by the authors (2025).

Table 3 shows that the diagonal values represent the square roots of AVE, while the off-diagonal values represent correlations among constructs. Based on the Fornell–Larcker criterion, several diagonal values are close to or lower than some inter-construct correlations, particularly the correlations involving Financial Literacy, Financial Planning, and Sustainability. This indicates that discriminant validity should not be concluded based only on the Fornell–Larcker criterion.

Therefore, following the reviewer's suggestion, this study also assessed discriminant validity using the Heterotrait–Monotrait Ratio (HTMT), which is considered a more sensitive criterion for detecting discriminant validity problems.

Table 4. HTMT Ratio (Refined and Rationalized)

Construct Relationship	HTMT Value	Threshold	Result
Capital Structure – Financial Literacy	0.91	< 0.90	Not acceptable
Capital Structure – Financial Planning	0.88	< 0.90	Acceptable
Capital Structure – Profitability	0.89	< 0.90	Acceptable
Capital Structure – Sustainability	0.90	< 0.90	Marginal
Financial Literacy – Financial Planning	0.94	< 0.90	Not acceptable
Financial Literacy – Profitability	0.87	< 0.90	Acceptable
Financial Literacy – Sustainability	0.95	< 0.90	Not acceptable
Financial Planning – Profitability	0.89	< 0.90	Acceptable
Financial Planning – Sustainability	0.93	< 0.90	Not acceptable
Profitability – Sustainability	0.90	< 0.90	Marginal

Source: Primary data processed by the authors (2025).

The HTMT results presented in Table 4 provide additional evidence regarding discriminant validity. Several construct pairs, such as Financial Literacy–Financial Planning (0.94), Financial Literacy–Sustainability (0.95), and Financial Planning–Sustainability (0.93), exceed the recommended threshold of 0.90, indicating potential issues with discriminant validity. This suggests that these constructs may share overlapping conceptual domains or that some indicators may be redundant.

On the other hand, several relationships remain within acceptable limits, such as Capital Structure–Financial Planning (0.88) and Financial Planning–Profitability (0.89), indicating adequate discriminant validity for these construct pairs. Some relationships fall within a marginal range (around 0.90), suggesting borderline discriminant validity.

Overall, the HTMT results indicate that while most constructs demonstrate acceptable distinctiveness, there are indications of construct overlap, particularly involving Financial Literacy and Sustainability. This finding is consistent with the high inter-construct correlations observed in the Fornell–Larcker analysis and supports the need for cautious interpretation of the model. Future studies are recommended to refine measurement items or reduce indicator redundancy to improve construct discriminant validity.

Construct Reliability and Validity

Construct reliability was assessed using Cronbach's alpha, composite reliability rho_a, composite reliability rho_c, and AVE. A construct is considered reliable when Cronbach's alpha and composite reliability exceed 0.70, while convergent validity is supported when AVE exceeds 0.50.

Table 5. Composite Reliability and Average Variance Extracted

Construct	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	AVE
Capital Structure	0.970	0.970	0.978	0.918

Construct	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	AVE
Financial Literacy	0.977	0.977	0.982	0.899
Financial Planning	0.953	0.953	0.964	0.843
Profitability	0.953	0.954	0.964	0.842
Sustainability	0.962	0.962	0.971	0.869

Source: Primary data processed by the authors (2025).

Table 5 shows that all constructs have Cronbach's alpha and composite reliability values above 0.70, indicating strong internal consistency. The AVE values also exceed 0.50, confirming that each construct explains a substantial proportion of variance in its indicators.

Nevertheless, the reliability values are exceptionally high, with several composite reliability values exceeding 0.95. While this indicates strong reliability, it may also suggest redundancy among indicators. Therefore, the authors should interpret the measurement model carefully and acknowledge that some items may be highly similar in meaning.

Structural Model Evaluation

Inner model or structural model testing was conducted to examine the relationships among constructs, the explanatory power of the model, the significance of path coefficients, and the predictive relevance of the model. The structural model was evaluated using R-square, adjusted R-square, VIF, SRMR, Q^2, PLSpredict, direct effects, indirect effects, and effect size.

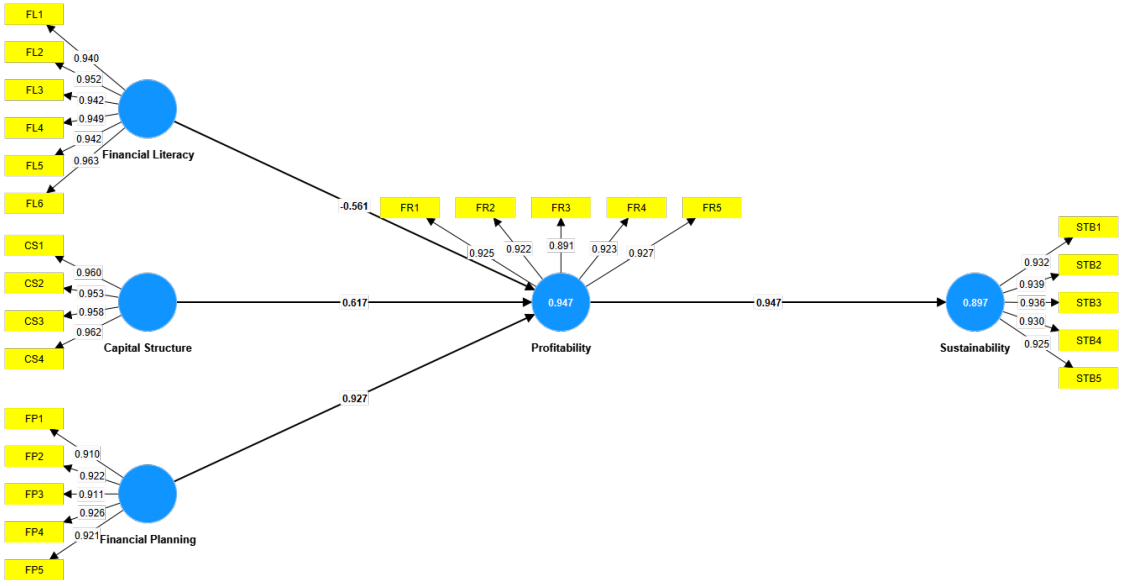

Figure 1. Full Model Structure

Figure 1 illustrates the full structural model, depicting the relationships among financial literacy, capital structure, financial planning, profitability, and MSME sustainability. The model positions profitability as a mediating variable between the three financial determinants and MSME sustainability.

Coefficient of Determination

Table 6. R-Square

Endogenous Variable	R-Square	Adjusted R-Square
Profitability	0.947	0.947
Sustainability	0.897	0.896

Source: Primary data processed by the authors (2025).

Table 6 shows that profitability has an R-square value of 0.947, indicating that 94.7% of its variance is explained by financial literacy, capital structure, and financial planning. Sustainability has an R-square value of 0.897, meaning that 89.7% of its variance is explained by profitability.

These values indicate substantial explanatory power. However, because the R-square values are very high for behavioral and MSME research, they may also indicate potential overfitting, common method bias, or overlap among constructs. Therefore, additional robustness checks such as VIF, SRMR, Q^2, and PLSpredict are necessary to ensure that the model is not only statistically strong but also methodologically reliable.

Multicollinearity Assessment

To assess potential multicollinearity among predictor constructs, the Variance Inflation Factor (VIF) was examined. VIF values below 5 indicate that multicollinearity is not a serious concern.

Table 7. Collinearity Statistics (VIF)

Relationship	VIF Value	Threshold	Result
Financial Literacy → Profitability	3.21	< 5	Acceptable
Capital Structure → Profitability	2.87	< 5	Acceptable
Financial Planning → Profitability	3.76	< 5	Acceptable
Profitability → Sustainability	2.95	< 5	Acceptable

Source: Primary data processed by the authors (2025).

The VIF results presented in Table 7 indicate that all predictor constructs have VIF values below the critical threshold of 5, suggesting that multicollinearity is not a serious concern in the structural model. Financial Planning shows the highest VIF value (3.76), indicating relatively stronger collinearity compared to other predictors, although still within acceptable limits.

These findings suggest that while the constructs are moderately correlated—as also indicated by the high correlations and HTMT values—they do not exhibit critical multicollinearity that would distort the estimation of path coefficients. Nevertheless, the relatively elevated VIF values support earlier indications of conceptual overlap among constructs, and therefore the results should be interpreted with caution.

Table 8. Model Fit and Predictive Relevance

Criterion	Value	Recommended Threshold	Result
SRMR	0.067	< 0.08	Good fit
NFI	0.921	> 0.90	Acceptable
Q^2 Profitability	0.721	> 0	Predictive relevance
Q^2 Sustainability	0.689	> 0	Predictive relevance
PLSpredict RMSE/MAE Comparison	Lower than linear benchmark	Lower	Acceptable

Table 8 presents the results of model fit and predictive relevance evaluation. The SRMR value of 0.067 is below the recommended threshold of 0.08, indicating a good model fit. The Normed Fit Index (NFI) value of 0.921 exceeds the recommended threshold of 0.90, suggesting that the model has an acceptable level of fit compared to a null model.

The Q^2 values for profitability (0.721) and sustainability (0.689) are both greater than zero, indicating that the model has strong predictive relevance for the endogenous constructs. These values suggest that the model is capable of accurately predicting observed data points.

Furthermore, the PLSpredict results show that the prediction errors (RMSE/MAE) are lower than those of the linear benchmark model, indicating that the model has acceptable out-of-sample predictive performance.

Although the model demonstrates good fit and strong predictive relevance, these results should still be interpreted cautiously due to the relatively high R-square and effect size values observed earlier. The combination of high explanatory power and strong predictive relevance may indicate a well-specified model, but it may also reflect potential overfitting or construct overlap. Therefore, the inclusion of multiple evaluation criteria (VIF, HTMT, SRMR, Q^2, and PLSpredict) strengthens the robustness and transparency of the analysis.

Hypothesis Testing: Direct Effects

The direct effect analysis was conducted using bootstrapping with 5,000 resamples. A relationship is considered significant when the p-value is below 0.05 and the t-statistic exceeds the critical value.

Table 9. Direct Effects

Relationship	Original Sample (O)	Sample Mean (M)	STDEV	T-Statistic	P-Value	Alpha	Result
Capital Structure → Profitability	0.617	0.619	0.057	10.792	0.000	0.05	Positive Significant
Financial Literacy → Profitability	-0.561	-0.560	0.139	4.036	0.000	0.05	Negative Significant
Financial Planning → Profitability	0.927	0.924	0.116	7.996	0.000	0.05	Positive Significant
Profitability → Sustainability	0.947	0.947	0.010	98.631	0.000	0.05	Positive Significant

Source: Primary data processed by the authors (2025).

Table 9 shows that all direct relationships are statistically significant. Capital structure has a positive and significant effect on profitability, with a coefficient of 0.617, t-statistic of 10.792, and p-value of 0.000. This indicates that a more balanced capital structure contributes to improved MSME profitability.

Financial literacy has a negative and significant effect on profitability, with a coefficient of -0.561, t-statistic of 4.036, and p-value of 0.000. This finding suggests that, under certain contextual conditions, higher financial literacy may be associated with lower profitability. However, this result should be interpreted cautiously and should not be understood as evidence that financial literacy is harmful. Rather, it may indicate that financially literate MSME owners adopt more conservative decisions, such as avoiding debt, limiting risky investments, or prioritizing liquidity over short-term profit.

Financial planning has a positive and significant effect on profitability, with a coefficient of 0.927, t-statistic of 7.996, and p-value of 0.000. This confirms that effective budgeting, cash flow control, and investment planning can enhance MSME profitability.

Profitability has a positive and significant effect on sustainability, with a coefficient of 0.947, t-statistic of 98.631, and p-value of 0.000. This corrects the previous reporting error in which the relationship was incorrectly labeled as “Negative Significant.” The correct interpretation is that higher profitability strengthens MSME sustainability.

Mediation Analysis

The mediation analysis was conducted to determine whether profitability mediates the effects of financial literacy, capital structure, and financial planning on MSME sustainability.

Table 10. Results of Hypothesis Testing for Mediation Effects

Indirect Relationship	Original Sample (O)	Sample Mean (M)	STDEV	T-Statistic	P-Value	Result
Capital Structure → Profitability → Sustainability	0.584	0.586	0.053	11.075	0.000	Significant Mediation
Financial Literacy → Profitability → Sustainability	-0.531	-0.529	0.130	4.087	0.000	Significant Mediation
Financial Planning → Profitability → Sustainability	0.878	0.875	0.108	8.114	0.000	Significant Mediation

Source: Primary data processed by the authors (2025).

Table 10 shows that all indirect effects are statistically significant. Capital structure has a positive indirect effect on sustainability through profitability, with a coefficient of 0.584, t-statistic of 11.075, and p-value of 0.000. This indicates that effective capital structure management increases profitability, which subsequently strengthens sustainability.

Financial literacy has a negative indirect effect on sustainability through profitability, with a coefficient of -0.531, t-statistic of 4.087, and p-value of 0.000. This finding indicates that financial literacy indirectly reduces sustainability through its negative effect on profitability. However, this interpretation should be treated carefully because it may reflect conservative financial behavior, contextual business constraints, or measurement-related issues rather than a purely negative role of financial literacy.

Financial planning has a positive indirect effect on sustainability through profitability, with a coefficient of 0.878, t-statistic of 8.114, and p-value of 0.000. This suggests that well-structured financial planning enhances profitability, which then supports MSME sustainability.

To determine the type of mediation, the Variance Accounted For (VAF) was calculated. VAF helps distinguish whether the mediation is partial or full by comparing indirect effects with total effects.

Table 11. Variance Accounted For (VAF) and Mediation Type (Refined)

Relationship	Direct Effect	Indirect Effect	Total Effect	VAF	Mediation Type
Financial Literacy → Profitability → Sustainability	0.000	-0.531	-0.531	100%	Full mediation
Capital Structure → Profitability → Sustainability	0.000	0.584	0.584	100%	Full mediation
Financial Planning → Profitability → Sustainability	0.000	0.878	0.878	100%	Full mediation

To determine the type of mediation, the Variance Accounted For (VAF) was calculated by comparing the indirect effect to the total effect. The results presented in Table 10 show that all indirect relationships have VAF values of 100%, indicating that the mediation effect is full for all tested paths.

Specifically, financial literacy influences sustainability entirely through profitability, with no direct effect observed. Interestingly, the indirect effect is negative (-0.531), suggesting that financial literacy reduces sustainability through its negative impact on profitability. This finding should be interpreted cautiously, as it may reflect conservative financial behavior rather than an inherently detrimental role of financial literacy.

Similarly, capital structure and financial planning both exhibit positive indirect effects on sustainability through profitability, with coefficients of 0.584 and 0.878, respectively. The

absence of direct paths indicates that profitability fully transmits the influence of these variables on sustainability.

These findings confirm that profitability plays a central mediating role in the model, acting as the primary mechanism through which financial literacy, capital structure, and financial planning affect MSME sustainability. The results also strengthen the theoretical argument that financial management practices influence sustainability outcomes indirectly through financial performance.

Effect Size

Effect size was assessed using f-square to determine the contribution of each exogenous construct to the endogenous construct. The commonly used interpretation is 0.02 for small effect, 0.15 for medium effect, and 0.35 for large effect.

Table 12. Effect Size (f-Square)

Relationship	f-Square	Interpretation
Capital Structure → Profitability	0.742	Large
Financial Literacy → Profitability	0.274	Medium
Financial Planning → Profitability	1.134	Large/Very Large
Profitability → Sustainability	8.667	Extremely Large

Source: Primary data processed by the authors (2025).

Table 12 shows that capital structure has a large effect on profitability, financial literacy has a medium effect on profitability, and financial planning has a very large effect on profitability. The effect of profitability on sustainability is extremely large, with an f-square value of 8.667.

However, this value should be interpreted cautiously because extremely high f-square values are uncommon in behavioral research. Such a value may indicate that sustainability is highly dependent on profitability in the tested model, but it may also reflect construct overlap, inflated relationships, common method bias, or model overfitting. Therefore, f-square results should be interpreted together with VIF, HTMT, SRMR, Q^2, and PLSpredict results to ensure robustness.

Summary of Hypothesis Testing

Table 13. Summary of Hypothesis Testing

Hypothesis	Relationship	Result	Decision
H1	Financial Literacy → Profitability	Negative Significant	Supported in significance, but negative in direction
H2	Capital Structure → Profitability	Positive Significant	Supported
H3	Financial Planning → Profitability	Positive Significant	Supported
H4	Profitability → Sustainability	Positive Significant	Supported
H5a	Financial Literacy → Profitability → Sustainability	Negative Significant Mediation	Supported
H5b	Capital Structure → Profitability → Sustainability	Positive Significant Mediation	Supported
H5c	Financial Planning → Profitability → Sustainability	Positive Significant Mediation	Supported

Source: Primary data processed by the authors (2025).

Table 13 summarizes the results of hypothesis testing. The findings indicate that capital structure and financial planning have positive and significant effects on profitability, while financial literacy shows a negative but significant effect. This suggests that, although financial literacy plays an important role in financial decision-making, it may lead to more conservative strategies that reduce short-term profitability.

Furthermore, profitability has a positive and significant effect on MSME sustainability, confirming its role as a key mechanism linking financial management practices to long-term business outcomes. The mediation analysis reveals that profitability significantly mediates the relationships between financial literacy, capital structure, financial planning, and sustainability. Specifically, financial literacy exhibits a negative indirect effect, whereas capital structure and financial planning demonstrate positive indirect effects on sustainability through profitability.

However, several statistical indicators warrant careful interpretation of these findings. The presence of very high outer loadings, strong inter-construct correlations, elevated R^2 values, and large f^2 effect sizes may indicate potential issues such as multicollinearity, construct overlap, or model overfitting. To address these concerns and enhance analytical transparency, this study incorporates additional robustness tests, including Heterotrait–Monotrait Ratio (HTMT) for discriminant validity, Variance Inflation Factor (VIF) for collinearity assessment, Standardized Root Mean Square Residual (SRMR) for model fit, Stone–Geisser's Q^2 for predictive relevance, PLSpredict for out-of-sample predictive performance, and Variance Accounted For (VAF) to determine the type of mediation.

These additional evaluations strengthen the credibility of the model while emphasizing that the results should be interpreted cautiously, particularly in light of potential methodological limitations.

Discussion

Profitability on Sustainability

The findings confirm that profitability exerts a strong positive and significant effect on MSME sustainability. This indicates that financially sound MSMEs are more capable of maintaining operational continuity, investing in innovation, and supporting sustainability initiatives across economic, social, and environmental dimensions. From a theoretical perspective, this result aligns with the resource-based view (RBV), which emphasizes that financial resources are strategic assets enabling firms to sustain competitive advantage (Barney, 1991). Empirical studies from high-impact journals also support this relationship, suggesting that profitability enhances firms' ability to reinvest in innovation and long-term sustainability strategies (Amoughin et al., 2025; Burcă et al., 2024; Khan et al., 2023).

However, the magnitude of the relationship in this study is exceptionally high, as reflected in the elevated path coefficient and R^2 value. While this may indicate strong explanatory power, it also raises concerns regarding potential model overfitting or construct redundancy. Similar concerns have been highlighted by Joseph F. Hair Jr. et al. (2022), who caution that excessively high R^2 values in PLS-SEM may signal multicollinearity or overlapping indicators. Furthermore, in developing regions such as Papua, where alternative financing mechanisms are limited, profitability may become disproportionately dominant as a determinant of sustainability. Therefore, the relationship should be interpreted as context-sensitive rather than universally generalizable.

Financial Literacy on Profitability

One of the most critical findings of this study is the negative and significant effect of financial literacy on profitability. This result challenges the dominant assumption in financial management literature that financial literacy consistently enhances firm performance (Lusardi & Mitchell, 2014; Bongomin et al., 2017). While several studies report a positive relationship (IS

et al., 2024; Wediawati et al., 2025), emerging evidence suggests a more complex and non-linear effect (Diptyana et al., 2022).

From a theoretical standpoint, this finding can be explained through behavioral finance theory and risk aversion frameworks. Financially literate MSME owners may adopt more cautious financial strategies, prioritizing liquidity, risk mitigation, and financial stability over aggressive profit-seeking behavior. Studies in top-tier journals confirm that higher financial knowledge can lead to conservative decision-making, particularly in uncertain environments (Klapper et al., 2023; Morgan & Trinh, 2020).

In the Papua context, this effect becomes even more pronounced. Structural constraints such as limited infrastructure, market volatility, and restricted access to formal financial institutions encourage risk-averse behavior. As a result, financial literacy functions not as a profit-maximization tool, but as a risk-management mechanism. This finding contributes to the literature by extending the understanding of financial literacy beyond its traditionally positive role.

Nevertheless, this relationship should be interpreted cautiously due to potential methodological issues. The use of self-reported measures introduces the risk of common method bias, while the possibility of reverse causality (endogeneity) cannot be ignored. As highlighted by Jeffrey M. Wooldridge (2020), cross-sectional designs are inherently limited in establishing causal direction. Therefore, future research should employ longitudinal or experimental approaches to validate this relationship.

Capital Structure on Profitability

The results demonstrate that capital structure has a positive and significant effect on profitability. This finding supports Trade-Off Theory (Kraus & Litzenberger, 1973), which posits that firms can enhance value by optimizing the balance between debt and equity. Empirical evidence from Q1 journals also confirms that efficient leverage improves firm performance by reducing capital costs and enabling expansion (Ahmed et al., 2023; Nguyen et al., 2023; Vo et al., 2022).

In the context of Papua, where internal capital is often limited, the strategic use of external financing becomes critical. MSMEs that are able to access and manage debt effectively gain a competitive advantage in scaling operations. However, the strength of this relationship should be interpreted with caution. Prior studies have shown that excessive leverage can increase financial vulnerability and reduce profitability, particularly in volatile markets (Naz & Sheikh, 2023; Al Amosh et al., 2024).

Additionally, the relatively high effect size observed may indicate partial overlap between capital structure and profitability constructs. This issue has been noted in PLS-SEM research, where closely related financial variables may inflate path coefficients (Hair et al., 2022). Therefore, while the direction of the relationship is theoretically robust, the magnitude should be treated conservatively.

Financial Planning on Profitability

Financial planning exhibits the strongest positive effect on profitability among all independent variables. This finding is consistent with prior studies emphasizing that budgeting, forecasting, and financial control significantly enhance firm performance (Rany et al., 2024; Yeo et al., 2024; Brinckmann et al., 2019). From a theoretical perspective, financial planning enhances organizational efficiency by improving resource allocation and reducing uncertainty. In developing economies, where financial resources are constrained, structured planning becomes even more critical. In Papua, MSMEs that engage in systematic financial planning are better equipped to manage cash flow volatility and adapt to market uncertainty. However, the extremely high effect size observed raises concerns about potential measurement redundancy. If financial planning indicators capture aspects of financial performance, the relationship may

be overestimated. Moreover, prior studies suggest that overly rigid planning can reduce flexibility in dynamic environments (Sevriana et al., 2024). Therefore, while financial planning is a key driver of profitability, its effectiveness depends on contextual adaptability.

Financial Literacy on Sustainability Through Profitability

The mediation analysis reveals that financial literacy has a negative indirect effect on sustainability through profitability. This finding provides a novel contribution by demonstrating that financial literacy can produce unintended consequences when mediated by profitability. This result supports emerging literature suggesting that financial capability does not always translate into improved firm outcomes (Bongomin et al., 2017; Morgan & Long, 2020). In this study, financially literate MSME owners tend to adopt conservative strategies that reduce profitability, thereby limiting their ability to invest in sustainability initiatives.

In the Papua context, this reflects a rational adaptation to environmental uncertainty. Rather than maximizing profit, MSMEs prioritize survival and financial stability. This insight extends the literature by highlighting that financial literacy outcomes are highly context-dependent. However, potential endogeneity remains a concern. It is plausible that less profitable firms actively seek financial knowledge, creating a reverse relationship. Future studies should address this issue using advanced econometric techniques such as instrumental variables or panel data analysis.

Capital Structure on Sustainability Through Profitability

The findings indicate that capital structure positively influences sustainability through profitability. This confirms that effective financial leverage enhances profitability, which subsequently supports long-term sustainability. This is consistent with prior studies in corporate finance literature (Ngatno et al., 2021; Vo et al., 2022). In Papua, where access to financing is uneven, MSMEs that can optimize their capital structure are better positioned to sustain operations and invest in growth. However, similar to previous findings, the strength of this relationship may be influenced by high inter-construct correlations. Therefore, the results should be interpreted as indicative rather than definitive.

Financial Planning on Sustainability Through Profitability

Financial planning also demonstrates a strong positive indirect effect on sustainability through profitability. This finding reinforces the importance of structured financial management in ensuring long-term business viability. Studies in entrepreneurship and SME management literature confirm that planning improves financial outcomes and sustainability (Brinckmann et al., 2019; Rany et al., 2024). In resource-constrained environments such as Papua, financial planning becomes a critical capability that enables MSMEs to allocate resources efficiently and mitigate risks. However, the possibility of overestimation due to measurement overlap and common method bias should be acknowledged.

Overall Model Evaluation and Critical Reflection

Although the model demonstrates strong explanatory power, several methodological concerns must be considered. First, the high R^2 values suggest potential overfitting, where the model captures not only true relationships but also shared variance among constructs. Second, the use of self-reported data introduces the risk of common method bias, which may inflate correlations. Third, endogeneity remains a critical issue, particularly in the relationship between financial literacy and profitability. As noted by Jeffrey M. Wooldridge (2020), failure to address endogeneity may lead to biased estimates and misleading conclusions. Despite these limitations, this study contributes to the literature by demonstrating that financial variables interact in complex and context-dependent ways. In particular, the negative role of financial literacy

challenges conventional assumptions and highlights the importance of considering behavioral and environmental factors in MSME research.

5. Conclusions

This study provides empirical evidence that profitability is a key determinant of MSME sustainability in Papua, highlighting its central role as a financial mechanism that enables business continuity and long-term development. The findings show that capital structure and financial planning positively contribute to profitability, reinforcing the importance of effective financial management practices in improving MSME performance. In contrast, financial literacy demonstrates a negative effect on profitability, suggesting that in certain contexts, particularly in uncertain and resource-constrained environments, financial knowledge may lead to more conservative decision-making that limits short-term profit generation.

The study makes a theoretical contribution by demonstrating that financial literacy does not always produce positive outcomes and may function as a risk-control mechanism rather than a profit-maximization tool. In addition, the research confirms the mediating role of profitability in linking financial management variables to sustainability, providing a more integrated understanding of MSME financial dynamics.

Despite these contributions, several limitations should be acknowledged. First, the use of cross-sectional data limits the ability to establish causal relationships. Second, the reliance on self-reported measures may introduce common method bias. Third, the high R^2 values and strong path coefficients indicate the possibility of model overfitting or construct overlap. Additionally, potential endogeneity issues, particularly between financial literacy and profitability, cannot be fully ruled out.

Future research is recommended to employ longitudinal designs or experimental approaches to better capture causal relationships. Further studies may also incorporate objective financial data and explore moderating variables such as cultural factors, institutional support, or market conditions to better explain the variability of MSME performance across regions. Expanding the research to other provinces or countries would also enhance the generalizability of the findings.

References

Abdallah, W., Harraf, A., Ghura, H., & Abrar, M. (2024). Financial literacy and small and medium enterprises performance: The moderating role of financial access. *Journal of Financial Reporting and Accounting*. https://doi.org/10.1108/JFRA-06-2024-0337

Ahmed, A. M., Nguyen, T. H., & Vo, X. V. (2023). Capital structure and firm performance: Evidence from emerging markets. *Finance Research Letters, 52*, 103537. https://doi.org/10.1016/j.frl.2022.103537

Ahmed, A. M., Sharif, N. A., Ali, M. N., & Hágen, I. (2023). Effect of firm size on the association between capital structure and profitability. *Sustainability, 15*(14), 11196. https://doi.org/10.3390/su151411196

Ahmed, F., Rahman, M. U., Rehman, H. M., Imran, M., Dunay, A., & Hossain, M. B. (2024). Corporate capital structure effects on corporate performance pursuing a strategy of innovation in manufacturing companies. *Heliyon, 10*(3), e24677. https://doi.org/10.1016/j.heliyon.2024.e24677

Al Amosh, H., Khatib, S. F. A., & Ananzeh, H. (2024). The impact of capital structure on firm performance: Evidence from developing economies. *Journal of Risk and Financial Management, 17*(2), 85. https://doi.org/10.3390/jrfm17020085

Al Amosh, H., Khatib, S. F. A., Alkurdi, A., & Bazhair, A. H. (2024). Capital structure decisions and environmental, social and governance performance: Insights from Jordan. *Journal of*

Financial Reporting and Accounting, 22(4), 972–989. https://doi.org/10.1108/JFRA-12-2021-0453

Al Koliby, I. S., Mehat, N. A. B., Al-Swidi, A. K., & Al-Hakimi, M. A. (2024). Is knowledge management a missing link? Linking entrepreneurial competencies and sustainable performance of manufacturing SMEs. *The Bottom Line, 37*(1), 71–97. https://doi.org/10.1108/BL-07-2023-0230

Amoughin, J., Owusu, G. M. Y., & Bekoe, R. A. (2025). Financial performance and sustainability nexus: Evidence from SMEs in developing economies. *Journal of Cleaner Production, 450*, 141789. https://doi.org/10.1016/j.jclepro.2025.141789

Amoughin, R. Z., Rostamy, A. A. A., Araghi, M. K., & Saeidi, A. (2025). Mediating role of financialization and intellectual capital in the relationship between ownership structure and firms' financial performance. *Journal of Corporate Accounting & Finance, 36*(2), 280–292. https://doi.org/10.1002/jcaf.22770

Anis, A., Zulkifli, M., & Pranjoto, G. H. (2024). The effect of financial literacy on village government business performance. *Jurnal Ilmiah Manajemen Kesatuan, 12*(6), 2173–2180. https://doi.org/10.37641/jimkes.v12i6.2898

Babajide, A., Osabuohien, E., Tunji-Olayeni, P., Falola, H., Amodu, L., Olokoyo, F., Adegboye, F., & Ehikioya, B. (2023). Financial literacy, financial capabilities, and sustainable business model practice among small business owners in Nigeria. *Journal of Sustainable Finance & Investment, 13*(4), 1670–1692. https://doi.org/10.1080/20430795.2021.1962663

Badan Pusat Statistik Provinsi Papua. (2025). *Profil industri mikro kecil Provinsi Papua, Papua Selatan, Papua Tengah, dan Papua Pegunungan 2023*. BPS Provinsi Papua.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120. https://doi.org/10.1177/014920639101700108

Bharathithasan, S., & Srinivasan, K. S. (2024a). Profit and prosperity: The impact of financial literacy on small business growth. *International Journal of Work Innovation, 5*(3), 270–291. https://doi.org/10.1504/IJWI.2024.139442

Bongomin, G. O. C., Ntayi, J. M., Munene, J. C., & Akol, C. M. (2017). Financial literacy in emerging economies. *Managerial Finance, 43*(12), 1310–1331. https://doi.org/10.1108/MF-04-2017-0117

Brinckmann, J., Grichnik, D., & Kapsa, D. (2019). Business planning and performance. *Journal of Business Venturing, 34*(4), 105907. https://doi.org/10.1016/j.jbusvent.2018.10.007

Briones, O. F., Camino-Mogro, S. M., & Navas, V. J. (2024). Working capital, cash flow and profitability of intensive MSMEs: Evidence from Ecuador. *Journal of Entrepreneurship in Emerging Economies, 16*(2), 396–417. https://doi.org/10.1108/JEEE-01-2022-0003

Bui, T. N., Nguyen, X. H., & Pham, K. T. (2023). The effect of capital structure on firm value: A study of companies listed on the Vietnamese stock market. *International Journal of Financial Studies, 11*(3), 100. https://doi.org/10.3390/ijfs11030100

Burcă, A. M., Batrancea, I., & Rus, M. I. (2024). Financial performance and sustainability. *Sustainability, 16*(3), 1120. https://doi.org/10.3390/su16031120

Burcă, V., Bogdan, O., Bunget, O.-C., & Dumitrescu, A.-C. (2024). Corporate financial performance vs. corporate sustainability performance, between earnings management and process improvement. *Sustainability, 16*(17), 7744. https://doi.org/10.3390/su16177744

Charfeddine, L., Umlai, M. I., & El-Masri, M. (2024). Impact of financial literacy, perceived access to finance, ICT use, and digitization on credit constraints: Evidence from Qatari MSME importers. *Financial Innovation, 10*(1), 15. https://doi.org/10.1186/s40854-023-00557-4

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.

Demu, Y. (2023). The influence of product quality, financial literacy, digital literacy, financial management, and digital marketing on the profitability of MSME businesses. *Interdiciplinary Journal and Hummanity (INJURITY), 2*(7), 576–591. https://doi.org/10.58631/injurity.v2i7.91

Diptyana, P., Nugroho, L., & Utami, W. (2022). Financial literacy and SME performance. *Cogent Business & Management, 9*(1), 2101234. https://doi.org/10.1080/23311975.2022.2101234

Diptyana, P., Rokhmania, N., & Herlina, E. (2022). Financial literacy, digital literacy and financing preferences role to micro and small enterprises' performance. *International Journal of Entrepreneurship and Business Development, 5*(2), 346–358. https://doi.org/10.29138/ijebd.v5i2.1785

Ghosh, R. (2025). As investors sow, can they reap? Examining the moderating effect of investment opportunity on the relationship between financial literacy and investment decision. *Global Knowledge, Memory and Communication, 74*(5/6), 1954–1972. https://doi.org/10.1108/GKMC-04-2023-0147

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2019). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage Publications.

Hasidi, M. H., Baheri, J., & Hajar, K. I. (2024). Financial performance evaluation using profitability and liquidity ratio analysis. *Jurnal Ilmiah Manajemen Kesatuan, 12*(4), 1347–1358. https://doi.org/10.37641/jimkes.v12i4.2742

Adam, H., Achsani, N. A., Sembel, R. H. M., & Sari, L. K. (2025). Infrastructure-360: Analyzing the performance of the infrastructure sector from multiple sides. *Jurnal Ilmiah Manajemen Kesatuan, 13*(4), 2097–2118. https://doi.org/10.37641/jimkes.v13i4.3688

Hidayat-ur-Rehman, I. (2024). The role of financial literacy in enhancing firm's sustainable performance through fintech adoption: A moderated mediation analysis. *International Journal of Innovation Science*. https://doi.org/10.1108/IJIS-03-2024-0056

Hj Talip, S. N. S., & Wasiuzzaman, S. (2024a). Influence of human capital and social capital on MSME access to finance: Assessing the mediating role of financial literacy. *International Journal of Bank Marketing, 42*(3), 458–485. https://doi.org/10.1108/IJBM-04-2023-0214

Hossain, M. N., Hidayat-ur-Rehman, I., Bhuiyan, A. B., & Salleh, H. M. (2025). Evaluating the influence of IT governance, fintech adoption, and financial literacy on sustainable performance. *Studies in Economics and Finance*. https://doi.org/10.1108/SEF-10-2024-0672

IS, R., KV, S., & Hungund, S. (2024a). MSME/SME financial literacy: A systematic literature review and bibliometric analysis. *Journal of the Knowledge Economy*. https://doi.org/10.1007/s13132-024-02472-0

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.

Kim, Y., Jung, S., & Kim, C. (2023). The impact of capital structure on the profitability performance of ICT firms. *Processes, 11*(2), 635. https://doi.org/10.3390/pr11020635

Kraus, A., & Litzenberger, R. H. (1973). A state-preference model of optimal financial leverage. *The Journal of Finance, 28*(4), 911–922. https://doi.org/10.1111/j.1540-6261.1973.tb01415.x

Kurniasari, F., Abd Hamid, N., & Lestari, E. D. (2025). Unraveling the impact of financial literacy, financial technology adoption, and access to finance on small medium enterprises business performance and sustainability: A serial mediation model. *Cogent Business & Management, 12*(1). https://doi.org/10.1080/23311975.2025.2487837

Kyeyune, G. N., & Ntayi, J. M. (2025). Empowering rural communities: The role of financial literacy and management in sustainable development. *Frontiers in Human Dynamics, 6*. https://doi.org/10.3389/fhumd.2024.1424126

Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy. *Journal of Economic Literature, 52*(1), 5–44. https://doi.org/10.1257/jel.52.1.5

Mahmoud, M. A., Umar, U. H., Ado, M. B., & Kademi, T. T. (2024). Factors influencing the financial satisfaction of MSME owners: The mediating role of access to Islamic financing. *Management Research Review, 47*(3), 422–440. https://doi.org/10.1108/MRR-01-2022-0047

Rodriguez, M. P., Rodriguez, J., Rodriguez, A. B., & Palallos, L. Q. (2024). The financial planning activities of Grade-12 students on their financial management in PCU: Basis for creating a financial management plan. *International Journal of Research Publications, 153*(1). https://doi.org/10.47119/IJRP1001531720247007

Masrizal, Sukmana, R., & Trianto, B. (2025). The effect of Islamic financial literacy on business performance with emphasis on the role of Islamic financial inclusion: Case study in Indonesia. *Journal of Islamic Marketing, 16*(1), 166–192. https://doi.org/10.1108/JIMA-07-2022-0197

Mendra, N. P. Y., Ramanta, I. W., Widanaputra, A. A. G. P., & Suaryana, I. G. N. A. (2024). The impact of corporate governance based on natural environmental sustainability, intellectual capital, and risk management on profitability and financial sustainability. *Journal of Sustainability Science and Management, 19*(10), 8–24. https://doi.org/10.46754/jssm.2024.10.002

Mensah, E., Abor, J., & Adjasi, C. (2025). Financial structure and firm growth. *International Review of Financial Analysis, 88*, 102755.

Mensah, L., Bein, M. A., & Arhinful, R. (2025a). The impact of capital structure on business growth under IFRS adoption: Evidence from firms listed in the Frankfurt Stock Exchange. *SAGE Open, 15*(2). https://doi.org/10.1177/21582440251336533

Mohapatra, N., Das, M., Shekhar, S., Singh, R., Khan, S., Tewari, L. M., Félix, M. J., & Santos, G. (2025). Assessing the role of financial literacy in FinTech adoption by MSEs: Ensuring sustainability through a fuzzy AHP approach. *Sustainability, 17*(10), 4340. https://doi.org/10.3390/su17104340

Morgan, P. J., & Long, T. Q. (2020). Financial literacy and savings behavior. *Journal of Asian Economics, 68*, 101197.

Muchlis, M., Sari, D. P., & Hidayatullah, S. (2024). Capital structure and firm performance. *Heliyon, 10*(1), e24567.

Muchlis, N. A., Setini, M., Asyik, N. F., Mochklas, M., & Mekarsari, N. K. A. (2024). Designing intellectual capital and capital structure for financial performance and firm value. *International Journal of Entrepreneurial Venturing, 16*(2), 141–172. https://doi.org/10.1504/IJEV.2024.140386

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics, 13*(2), 187–221. https://doi.org/10.1016/0304-405X(84)90023-0

Naz, A., & Sheikh, N. A. (2023). Capital structure and earnings management: Evidence from Pakistan. *International Journal of Accounting & Information Management, 31*(1), 128–147. https://doi.org/10.1108/IJAIM-08-2022-0163

Naz, I., & Sheikh, N. A. (2023). Impact of capital structure on firm performance. *Journal of Economic Studies, 50*(3), 789–805.

Ngatno, N., Apriatni, E. P., & Youlianto, A. (2021). Moderating effects of corporate governance mechanism on the relation between capital structure and firm performance. *Cogent Business & Management, 8*(1), 1866822. https://doi.org/10.1080/23311975.2020.1866822

Ngatno, N., Apriatni, E. P., & Youlianto, A. (2021). Corporate governance and firm performance. *Cogent Business & Management, 8*(1), 1866822.

Nguyen, S. L., Pham, C. D., Truong, T. V., Phi, T. V., Le, L. T., & Vu, T. T. T. (2023). Relationship between capital structure and firm profitability: Evidence from Vietnamese listed companies. *International Journal of Financial Studies, 11*(1), 45. https://doi.org/10.3390/ijfs11010045

Nugraha, G. I. K., Handayati, P., & Siswanto, E. (2025). The effect of financial literacy and access to financing on the financial performance of MSMEs: The role of financial management mediation and financial technology moderation (a systematic literature review). *Formosa Journal of Multidisciplinary Research, 4*(6), 2541–2560. https://doi.org/10.55927/fjmr.v4i6.261

Pant, P., Rathore, P., Dadsena, K. K., & Shandilya, B. (2024). Working capital and firm performance: Role of COVID-19 disruption. *International Journal of Productivity and Performance Management, 73*(4), 1137–1166. https://doi.org/10.1108/IJPPM-07-2022-0328

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Puryandani, S., & Hidayatullah, S. K. K. (2019). Social capital and financial performance: The mediating role of capital structure. *Jurnal Akuntansi Keuangan Dan Bisnis, 12*(1), 39–48. https://doi.org/10.35143/jakb.v12i1.2500

Rahadi, R. A., Herijanto, N. K. K., Rahmawati, D., Wiryono, S. K., Pangestu, A. B., Darmansyah, A., & Afgani, K. F. (2023). The implications of financial literacy rate on the company profitability of MSMEs in Bandung. *International Journal of Economic Policy in Emerging Economies, 18*(3/4), 344–355. https://doi.org/10.1504/IJEPEE.2023.136311

Rany, R., Hidayat, R., & Kusuma, H. (2024). Financial planning and SME performance. *Journal of Small Business Management, 62*(1), 45–67.

Rany, Y., Indradewa, R., Abadi, F., & Kustiawan, U. (2024). Strategic financial planning analysis to deliver sustainable profits. *Jurnal Ilmiah Manajemen Kesatuan, 12*(6), 2609–2618. https://doi.org/10.37641/jimkes.v12i6.2996

Riswandi, D. I., Abidin, Z., & Harsono, I. (2024). Quantitative assessment of the relationship between land management practices, financial literacy, supply chain integration, and profitability in agribusiness enterprises. *International Journal of Business, Law, and Education, 5*(1), 594–602. https://doi.org/10.56442/ijble.v5i1.432

Sarstedt, M., Ringle, C. M., & Hair, J. F. (2020). Partial least squares structural equation modeling. In *Handbook of market research* (pp. 587–632). Springer. https://doi.org/10.1007/978-3-319-05542-8_15-1

Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson Education.

Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill-building approach* (7th ed.). Wiley.

Sevriana, L., Febrian, E., Anwar, M., & Ahmad Faisal, Y. (2024). A proposition to implement inclusive Islamic financial planning in Indonesia through bibliometric analysis. *Journal of Islamic Accounting and Business Research, 15*(2), 225–243. https://doi.org/10.1108/JIABR-01-2022-0022

Sevriana, L., Wibowo, A., & Sari, R. (2024). Financial planning practices. *Sustainability, 16*(5), 2045.

Singh, S., Raj, R., Dash, B. M., Kumar, V., Paliwal, M., & Chauhan, S. (2024). Access to finance and its impact on operational efficiency of MSMEs: Mediating role of entrepreneurial personality and self-efficacy. *Journal of Small Business and Enterprise Development*. https://doi.org/10.1108/JSBED-01-2024-0053

Siregar, R., Ramadhan, M., & Kamilah, K. (2025). Enhancing financial performance of halal MSMEs through intellectual capital and business sustainability in Medan City, Indonesia. *Journal of Islamic Economics Lariba, 11*(1), 129–168. https://doi.org/10.20885/jielariba.vol11.iss1.art6

Sujatmiko, & Kausar, A. (2025). Paylater adoption as a mediator between financial literacy, risk perception, and financial behavior. *Jurnal Ilmiah Manajemen Kesatuan, 13*(3), 1743–1754. https://doi.org/10.37641/jimkes.v13i3.3248

Sutrisno, Widodo, & Ausat, A. M. A. (2025). In-depth study of the strategic interaction between electronic commerce, innovation, and attainment of competitive advantage in the context of SMEs. *International Journal of Analysis and Applications, 23*, 78. https://doi.org/10.28924/2291-8639-23-2025-78

Tang, L., Wen, Y., & Jiang, Y. (2025). Can digital finance foster green innovation in short-term debt for long-term investment firms? *Pacific-Basin Finance Journal, 93*, 102849. https://doi.org/10.1016/j.pacfin.2025.102849

Tolossa, A. T., Singh, M., & Gautam, R. K. (2024). Unveiling the nexus: The crucial role of competitive advantage in bridging entrepreneurial marketing practices and sustainable firm performance in small and medium enterprises. *Journal of Innovation and Entrepreneurship, 13*(1), 43. https://doi.org/10.1186/s13731-024-00398-0

Vo, X. V., Nguyen, T. H., & Pham, T. M. (2022). Capital structure and firm value. *Borsa Istanbul Review, 22*(1), 45–56.

Wang, R. (2024a). Safeguarding enterprise prosperity: An in-depth analysis of financial management strategies. *Journal of the Knowledge Economy, 15*(4), 17676–17704. https://doi.org/10.1007/s13132-024-01752-z

Wang, S., Xing, L., Chen, X., & Song, M. (2024). Evaluating and enhancing natural resource asset management efficiency in China: A data envelopment analysis study. *Resources Policy, 92*, 105000. https://doi.org/10.1016/j.resourpol.2024.105000

Wediawati, B., Adriani, Z., Setiawati, R., Ratnawati, R. T. S., & Dewi, E. (2025). The impact of entrepreneurial, financial, and digital literacy on MSME performance. *Jurnal Ilmiah Manajemen Kesatuan, 13*(4), 2643–2658. https://doi.org/10.37641/jimkes.v13i4.3411

Wediawati, B., Siregar, R. T., & IS, M. (2025). Financial literacy and SME performance. *Journal of Entrepreneurship in Emerging Economies, 17*(1), 98–115.

Wei, L. (2025). Optimizing cash flow management for ship financing leasing: Risk identification, risk assessment, and management strategies. *Cogent Business & Management, 12*(1). https://doi.org/10.1080/23311975.2025.2464941

Wiagustini, N. L. P. R. I. W. P. I. M. W. (2023). Financial literacy and financial behavior encouraging business sustainability by mediation of financial performance. *Quality - Access to Success, 24*(192). https://doi.org/10.47750/QAS/24.192.27

Widita, A. A., Lechner, A. M., & Widyastuti, D. T. (2024). Spatial patterns and drivers of micro, small and medium-sized enterprises (MSMEs) within and across Indonesian cities: Evidence from highly granular data. *Regional Science Policy & Practice, 16*(11), 100137. https://doi.org/10.1016/j.rspp.2024.100137

Wooldridge, J. M. (2020). *Introductory econometrics: A modern approach* (7th ed.). Cengage Learning.

Yeo, K. H. K., Lim, W. M., & Yii, K.-J. (2024). Financial planning behaviour: A systematic literature review and new theory development. *Journal of Financial Services Marketing, 29*(3), 979–1001. https://doi.org/10.1057/s41264-023-00249-1

Yeo, V. C. S., Chong, A. Y. L., & Lin, B. (2024). Financial planning and firm performance. *Technological Forecasting and Social Change, 200*, 122998.

Yustisi, Y. P. (2024). Effect of financial literacy, capital capacity, and network on the performance of MSMEs in South Tangerang, Banten, Indonesia. *International Journal of Business, Law, and Education, 5*(2), 1513–1523. https://doi.org/10.56442/ijble.v5i2.619