


Determinants of Financial Risk Management in Micro, Small, and Medium Enterprises (MSMEs) in South Tangerang

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Article Info	ABSTRACT
<p>Keywords: Financial Risk Management, Msmes, Financial Governance, Tax Compliance, Debt Management.</p>	<p>This study explores the key determinants influencing financial risk management in micro, small, and medium enterprises located in South Tangerang. These enterprises play a crucial role in regional economic development but often face vulnerability due to limited resources and weak internal financial controls. The research examines the effects of financial governance, income tax management, business debt handling, and debt ratio on the effectiveness of financial risk management. Data were collected through a structured questionnaire and analyzed using the Structural Equation Modeling approach with Partial Least Squares. The findings reveal that financial governance and income tax management significantly enhance the quality of financial risk management practices. Conversely, the impact of business debt management and debt ratio was found to be statistically insignificant. These results suggest that strengthening financial administration and tax compliance is essential to mitigating financial risks. The study offers practical implications for policymakers, stakeholders, and MSME owners to develop more resilient financial strategies.</p>
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INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) serve as a cornerstone of Indonesia's national economy, contributing substantially to employment and gross domestic product. In South Tangerang, the rise in MSME activity has been particularly evident across trade, services, food, and creative sectors, highlighting their growing relevance in local economic ecosystems (Ministry of Cooperatives and SMEs, 2023). Despite this encouraging trend, MSMEs remain highly susceptible to financial uncertainties due to limited access to resources, inadequate financial systems, and weak governance structures.

Financial risk management, therefore, has become an essential concern among MSME actors, as many struggle to sustain operations when faced with unexpected financial shocks. According to Herdinata and Pranatasari (2021), the lack of financial literacy among MSME owners is one of the leading causes of poor cash flow management and operational inefficiencies. This situation makes them vulnerable not only to internal mismanagement but

also to external market pressures, including inflation, interest rate fluctuations, and changes in regulatory policies.

The Risk-Based Finance Theory suggests that sound financial management practices, including cost control and liquidity management, are fundamental to mitigating risk exposure (Hull, 2018). Unfortunately, many MSMEs still operate without basic financial planning tools or formal accounting systems. As a result, they often lack the ability to anticipate risks, respond strategically to financial disruptions, or secure financing from formal institutions (Hery, 2020). This highlights a growing gap between the increasing economic significance of MSMEs and their limited capacity to manage risk effectively.

Among the most critical issues facing MSMEs in South Tangerang is the absence of financial governance mechanisms. Poor recordkeeping and failure to separate business and personal finances frequently lead to decision-making errors and liquidity crises (Purwanti & Prasetyo, 2020). Moreover, inconsistent cash flow planning further amplifies the problem, especially for businesses that rely heavily on daily revenues for operational survival (Rachmawati et al., 2022). This pattern not only increases the probability of business failure but also limits growth potential.

Cost control is another pressing concern. MSMEs that lack structured budgeting processes are more prone to overspending and inefficient resource allocation. Susilawati and Puryandani (2021) assert that such weaknesses significantly affect profit margins, limiting the ability of these enterprises to build capital reserves or reinvest in expansion. Meanwhile, the growing adoption of financial technology presents both a solution and a challenge. While digital applications can help streamline bookkeeping and cash flow monitoring, their adoption is still limited due to low digital literacy and infrastructure gaps (Reza & Susanti, 2020).

Debt management, particularly in the context of informal financing, also presents a notable risk. Many MSMEs rely on informal lenders due to limited access to formal credit systems, often leading to unsustainable debt burdens (Suharyati, 2021). This situation is exacerbated by a lack of understanding of debt structuring or repayment strategies, increasing the likelihood of financial default. Research by Karsimin and Pantjaningsih (2022) found that high-interest rates in informal lending frequently erode profits and destabilize cash flow, pushing small enterprises further into financial distress.

Compounding these issues is the challenge of income tax compliance. While the government has simplified tax obligations for MSMEs through final tax mechanisms, many entrepreneurs still struggle to fulfill their responsibilities due to inadequate tax knowledge and poor financial documentation (Fahmi & Rahman, 2023). Failure to comply with tax regulations can result in penalties that strain liquidity, and in some cases, damage the reputation and legal standing of the business.

Tax management is not just a legal obligation but also a critical aspect of financial governance. Well-managed tax compliance can serve as an indicator of business integrity, improving access to formal funding and public support programs (Kasnelly & Luthfi, 2022). Furthermore, MSMEs that understand how to utilize tax incentives or deductions are more likely to maintain financial resilience, particularly during periods of economic uncertainty.

Given these circumstances, there is a pressing need to investigate the factors that determine the quality of financial risk management among MSMEs in South Tangerang. This study aims to examine how financial governance, income tax management, business debt management, and debt ratio influence the effectiveness of risk management practices. By doing so, it seeks to contribute to both academic discourse and practical strategies for empowering MSMEs with tools for sustainable financial management.

Ultimately, the findings from this research are expected to offer valuable insights for local governments, policymakers, financial institutions, and MSME owners. Enhancing financial governance and tax literacy can significantly reduce vulnerability and enhance resilience, allowing MSMEs not only to survive but to thrive. With the right interventions and strategies, MSMEs can become even more formidable agents of inclusive economic growth in Indonesia.

METHODS

This study adopts a quantitative research design with an explanatory approach, aiming to uncover the relationship between various financial management practices and the effectiveness of financial risk management among MSMEs in South Tangerang. The explanatory nature of this research allows us to go beyond description and test specific hypotheses regarding causal influences between variables. In line with this objective, the study relies on a structured questionnaire distributed to MSME owners and managers, enabling a systematic analysis of how financial governance, debt management, income tax handling, and debt ratio relate to financial risk management outcomes.

The population in this research comprises active MSMEs operating in South Tangerang across multiple sectors, including food and beverage, services, crafts, and retail. Given the diverse characteristics of MSMEs in this region, a purposive sampling technique was employed to ensure that the selected respondents had sufficient knowledge and experience in managing their business finances. This approach was particularly useful in narrowing the sample to MSMEs that maintain at least minimal financial documentation and have been in operation for more than one year. The intention was to gather insights from businesses that have already encountered and managed some level of financial risk.

To collect the data, a standardized questionnaire was developed based on validated constructs from previous research, adapted to fit the MSME context. Each construct was measured using multiple items on a Likert scale, ranging from strongly disagree to strongly agree. Before the questionnaire was distributed widely, a pilot test was conducted with a small group of MSME owners to ensure clarity, relevance, and consistency. Their feedback helped refine the language of the questions, making them more relatable and understandable for respondents who may not have formal business education.

The data collection process was conducted over a span of several weeks, both online and offline. In some cases, face-to-face interactions were necessary to ensure the proper understanding of the questionnaire, especially among MSME owners unfamiliar with digital tools. Field researchers also assisted in filling out responses where needed, ensuring that no key information was lost due to literacy or technological barriers. This hands-on approach

helped build trust with respondents and yielded a high response rate with complete and usable data.

Once the data was collected, it was cleaned and prepared for analysis using SmartPLS, a powerful software tool for conducting Partial Least Squares Structural Equation Modeling (PLS-SEM). This method was chosen for its suitability in handling complex models and smaller sample sizes, which are common in MSME research. PLS-SEM is particularly effective for exploratory studies and can assess both the measurement model (validity and reliability of constructs) and the structural model (the relationships among variables) simultaneously.

The analysis began with the evaluation of the outer model, which focused on testing convergent validity, discriminant validity, and reliability of each construct. Items that did not meet the required loading threshold were excluded to improve the overall quality of the model. Once the measurement model was confirmed to be robust, the inner model was examined to assess the hypothesized relationships among variables. Path coefficients, T-statistics, and p-values were used to determine the significance of each direct effect.

To ensure the robustness of the findings, several classical assumption tests were also conducted, including tests for multicollinearity, normality, and heteroskedasticity. These diagnostics helped validate the reliability of the regression results. Additionally, R-square values were calculated to understand how much variance in financial risk management could be explained by the predictor variables. This offered a clearer view of which determinants had the strongest influence on MSMEs' ability to manage financial risks effectively.

RESULTS AND DISCUSSION

Overview of the Research Object

Micro, Small, and Medium Enterprises (MSMEs) are the backbone of the local economy in South Tangerang, particularly in sectors such as culinary, fashion, handicrafts, and creative services. According to the South Tangerang Office of Cooperatives and MSMEs, the number of MSMEs grew significantly from approximately ninety thousand in 2020 to nearly one hundred fifty thousand in 2022. However, data from the Ministry of Trade in 2023 notes only around ninety-two thousand officially registered MSMEs, with roughly two-thirds holding formal business identification numbers. This discrepancy indicates that many MSMEs still operate informally without legal documentation.

Most MSMEs in South Tangerang are home-based, informally run, and largely owned by women with secondary education backgrounds. Research by Suryaningsih and Fauziah highlights that gender and education levels contribute to unsystematic financial practices, particularly in separating business and personal finances. Furthermore, as noted by Arianti and Azzahra (2020), financial literacy is shaped by income, investment behavior, education, and work experience—factors which directly influence business sustainability. Fikri (2023) also found that financial knowledge, access to finance, and risk attitude significantly affect MSME performance. However, Darma et al. (2023) observed that low digital literacy and limited access to technology remain barriers to adopting digital financial management tools.

Several initiatives have been implemented, including digital training and the introduction of simple accounting applications through partnerships between local

government and private entities like Telkomsel. These programs aim to improve competitiveness and financial transparency among active MSMEs.

Descriptive Statistics

The research involved distributing questionnaires to one hundred MSME owners operating in South Tangerang. Respondents were selected based on specific criteria aligned with the study's focus. Surveys were delivered both in person and online to maximize reach and ensure diverse responses.

Out of the total distributed questionnaires, only fifty were returned and completed correctly, resulting in a fifty percent response rate. While modest, this level of participation is still acceptable for quantitative analysis in field research, considering time constraints and respondents' busy schedules. These fifty completed responses served as the sample for further analysis, with data quality assured through completeness and proper adherence to the questionnaire guidelines.

Distribution of Respondents by Gender

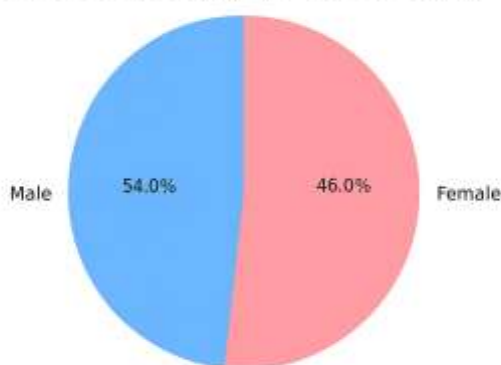


Figure 1. Gender Distribution of Respondents

The gender distribution of respondents reflects a relatively balanced participation between male and female MSME actors in South Tangerang. Of the fifty respondents who completed the questionnaire, fifty-four percent were male, while forty-six percent were female. This composition suggests an inclusive business environment in which both men and women actively engage in running micro, small, and medium enterprises.

The slightly higher representation of male respondents may indicate the continued predominance of men as primary business operators and decision-makers, particularly in sectors such as technical services, general trade, and larger-scale micro enterprises. Meanwhile, women showed strong participation in more flexible sectors such as culinary businesses, beauty services, handicrafts, and home-based enterprises.

This balance highlights the diversity of gender roles in MSMEs and the need for tailored support programs. While men often shoulder responsibilities related to business expansion, women frequently face the dual role of managing both household and business duties. These findings provide a valuable foundation for designing inclusive empowerment initiatives that address the unique challenges faced by each group. Ultimately, the data affirms that MSMEs

in South Tangerang are open spaces for entrepreneurship, equally accessed by both men and women.

Distribution of Respondents by Education

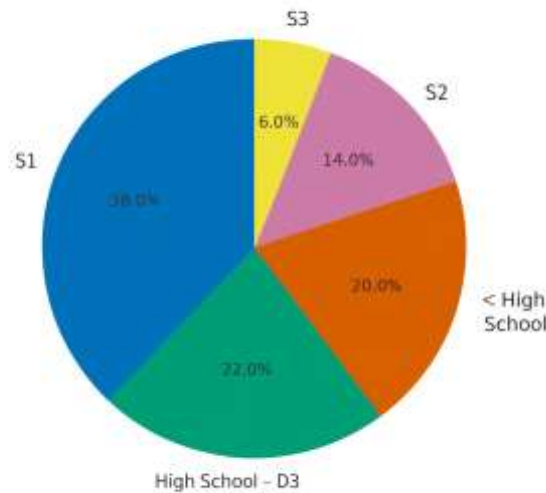


Figure 2. Educational Background of Respondents

The distribution of respondents based on educational background reveals a diverse range, from elementary education to postgraduate degrees. The majority of respondents hold a bachelor’s degree, accounting for approximately thirty-eight percent, reflecting MSME owners with relatively strong academic backgrounds and better access to information, training, and business management skills. Around twenty-two percent of respondents completed high school or a diploma-level education, typically representing those who run skill-based or vocational businesses and manage their operations hands-on.

Approximately twenty percent of respondents have less than a high school education, often relying on experience and intuition rather than formal managerial knowledge. Despite this, they tend to exhibit strong perseverance and adaptability in sustaining their businesses. Fourteen percent of respondents hold a master’s degree, while six percent have doctoral qualifications. This indicates that MSMEs are not solely a fallback option due to limited employment but also a strategic choice among highly educated individuals pursuing independent economic ventures.

The educational diversity among MSME actors in South Tangerang illustrates a dynamic ecosystem where theoretical knowledge intersects with practical experience. Thus, support programs must be designed with adaptive approaches that align with varying educational levels to ensure more effective and inclusive empowerment.

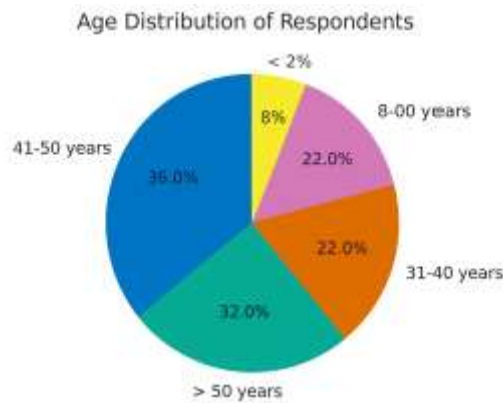


Figure 3. Age Distribution of Respondents

The age distribution of respondents indicates that MSME actors in South Tangerang are predominantly from mature and older age groups. The largest proportion, around thirty-six percent, falls within the forty-one to fifty-year-old range—typically individuals with greater life experience and economic stability, often managing their businesses with structured, long-term perspectives.

The second-largest group comprises respondents aged over fifty, accounting for about thirty-two percent. Many in this category have transitioned into entrepreneurship after retirement or as a continuation of previous work experience, relying on practical skills and long-established social networks. Respondents aged thirty-one to forty make up twenty-two percent and are generally in the growth phase of their careers. They often view MSMEs as either supplementary income or their primary path to economic independence, often embracing digital tools and innovation.

Younger entrepreneurs, aged twenty-one to thirty, represent eight percent of the sample. Although smaller in number, they demonstrate a growing entrepreneurial spirit, especially in digital and modern market sectors. Finally, one respondent was under twenty-one, signaling early interest in entrepreneurship among youth, though still limited in scale. This generational diversity underscores the need for MSME empowerment programs that are age-sensitive and tailored to the distinct characteristics and communication styles of each age group.

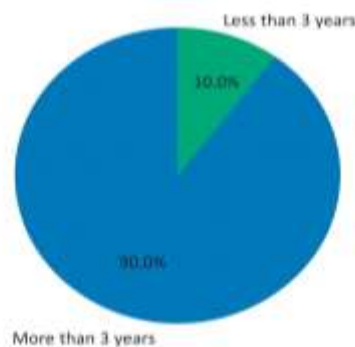


Figure 4. Business Duration of Respondents

The distribution of respondents based on business duration reveals that the majority of MSME actors in South Tangerang have been running their businesses for a considerable period. Most respondents, approximately ninety percent, have been operating for more than three years, while only a small portion, about ten percent, have run their businesses for less than three years.

This trend highlights a strong level of business sustainability among local MSMEs, indicating their resilience through economic shifts, market competition, and changing consumer behaviors. This long-term survival is likely supported by adaptive strategies, financial stability, and strong customer relationships.

Meanwhile, the presence of newer businesses, although smaller in proportion, signifies a growing entrepreneurial spirit within the community. These newer ventures are typically still in the exploration stage and require targeted support in training, mentoring, and access to capital.

Structural Equation Modeling Analysis Using SmartPLS

This study employs Structural Equation Modeling (SEM) based on the Partial Least Squares (PLS) approach using the SmartPLS software. This method is particularly suitable for analyzing complex causal relationships among latent constructs, especially with a relatively small sample size as in this research. SEM-PLS allows for the simultaneous evaluation of both direct and indirect effects, as well as the overall contribution of each construct in explaining the endogenous variable.

The initial model is designed to examine key determinants influencing financial risk management among MSME actors in South Tangerang City. The framework integrates theories of risk management with relevant indicators such as financial literacy, access to capital, managerial competence, and business experience.

By applying SEM-PLS, the study assesses how significantly each factor contributes to effective and sustainable financial risk management. The model also explores potential indirect relationships among the variables and evaluates the model's explanatory power regarding financial risk behavior within the MSME sector.

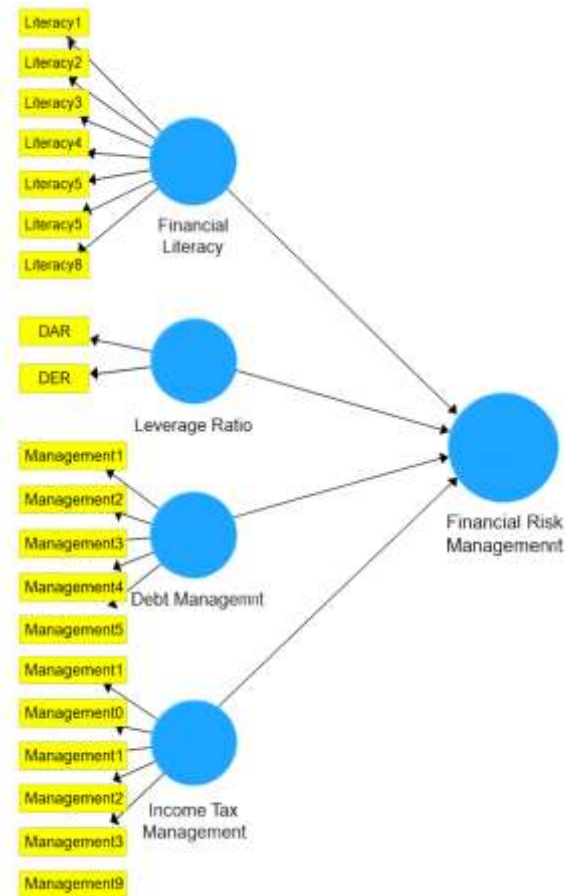


Figure 5. Summary and Translation

Initial Model Overview

The initial model, as illustrated, incorporates four key exogenous constructs—Financial Governance, Debt Ratio, Business Debt Management, and Income Tax Management—each hypothesized to influence the endogenous construct, Financial Risk Management. These constructs are measured by several observed indicators: Tata_Kelola1–8, DAR, DER, Pengelolaan_Hutang1–10, Pengelolaan_Pajak1–10, and Man_Risk1–10.

The model aims to analyze how these independent variables affect the ability of MSME actors to manage financial risks effectively. Financial Governance reflects internal financial control and reporting practices, while Debt Ratio indicates the enterprise’s leverage level. Business Debt Management includes policies related to short- and long-term obligations, and Income Tax Management represents tax compliance. The hypothesized relationships between these constructs, including both direct and indirect effects, will be tested further through outer and inner model evaluations. This SEM-PLS-based model, processed via SmartPLS, offers both theoretical and practical insights into enhancing MSME financial resilience, particularly in the dynamic economic context of South Tangerang.

Measurement (Outer) Model Evaluation

Following the development of the initial model, the outer model is evaluated to assess the validity and reliability of the latent constructs and their indicators. This step ensures the measurement model accurately represents each construct.

The evaluation involves statistical metrics such as outer loadings, Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach’s Alpha. Convergent validity examines how closely indicators within a construct correlate, while discriminant validity checks that each construct is unique and distinct from others. Reliability tests confirm the internal consistency of indicators within each construct.

The constructs evaluated include Financial Governance, Debt Ratio, Business Debt Management, Income Tax Management, and Financial Risk Management—each based on prior literature and validated instruments. Only constructs that demonstrate acceptable validity and reliability will proceed to the structural model testing phase. Thus, the outer model evaluation is crucial in ensuring the analytical integrity and accuracy of the proposed model for identifying determinants of financial risk management among MSMEs in South Tangerang.

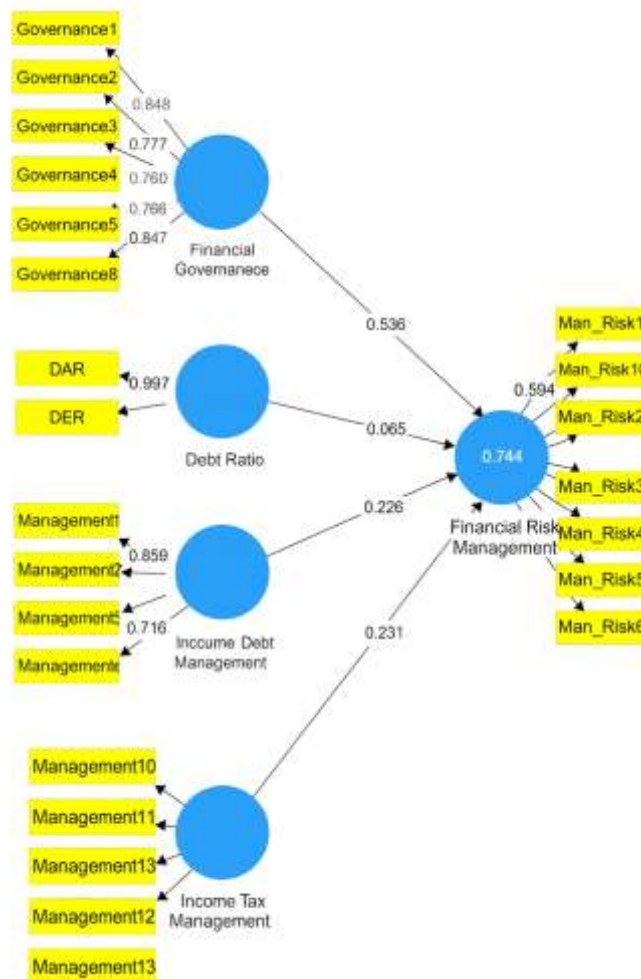


Figure 6. Stage 1 Validity Test (Outer Loading Evaluation Summary)

Figure 6 presents the outer loading results for each indicator in relation to its respective latent construct. This evaluation is the first step in assessing convergent validity and internal consistency using the SEM-PLS approach. Indicators with a loading value ≥ 0.700 are considered statistically valid.

For the Financial Governance construct, eight indicators were tested. Indicators Tata_Kelola1 to Tata_Kelola3 and Tata_Kelola5 met the minimum threshold, while others (Tata_Kelola4, Tata_Kelola6 to Tata_Kelola8) had loadings below 0.700, indicating the need for further review or possible removal.

The Debt Ratio construct, measured through DAR and DER, displayed excellent loading values (0.996 and 0.997), confirming strong convergent validity. In the Trade Payables Management construct, some indicators (e.g., 0.839; 0.768; 0.764; 0.772) showed acceptable loading values, but others (0.648; 0.672; 0.554) hovered near or below the threshold, suggesting potential for refinement. For the Income Tax Management construct, most indicators exhibited good loadings (above 0.700), except one with a lower score of 0.599, which may undermine the construct's reliability.

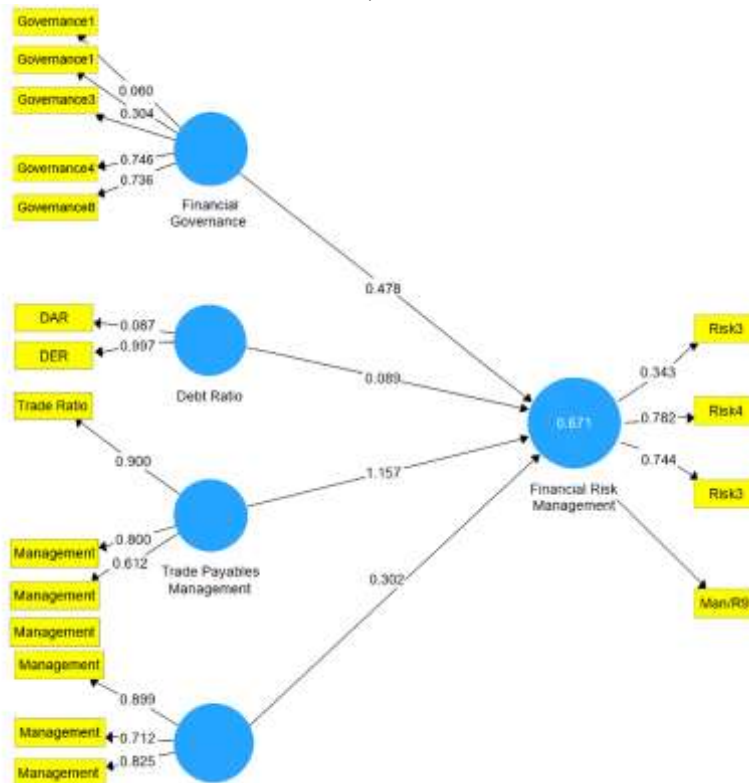


Figure 7. Stage 2 Validity Test – Summary and Translation

Figure 7 illustrates the final outer loading results, reflecting the strength of the relationship between indicators and their corresponding latent constructs in the research model. This evaluation aims to assess convergent validity, which indicates how consistently and significantly each indicator measures its associated construct. An outer loading threshold of 0.700 is applied to determine whether an indicator is statistically and conceptually acceptable.

The findings reveal that all remaining indicators exceed the minimum threshold, indicating robust convergent validity throughout the model. For the Financial Governance construct, all six indicators (Tata_Kelola1 to Tata_Kelola6) recorded outer loading values above 0.700. This confirms their strong representational power and reinforces the construct's relevance in determining financial risk management among MSMEs. The Debt Ratio construct, measured by DAR and DER, shows exceptionally high outer loading values of 0.997, indicating excellent consistency and representation. In the Trade Payables Management construct, all indicators scored above 0.700, reflecting strong measurement quality and comprehensive coverage of the dimension. Similarly, the Income Tax Management construct met the validity criteria with all indicators falling within acceptable ranges, confirming that the tax management practices of MSME actors are well represented in the model. For the key endogenous variable, Financial Risk Management, four indicators were used, each with outer loading values above 0.740. This validates the accuracy and relevance of the selected indicators in measuring the construct.

Table 1. Outers Loadings

Indicators	Financial Risk Management	Trade Payables Management	Income Tax Management	Debt Ratio	Financial Governance
DAR				0.997	
DER				0.997	
Man_Risk2	0.846				
Man_Risk4	0.782				
Man_Risk6	0.744				
Man_Risk9	0.829				
Tax_Management1			0.839		
Tax_Management3			0.712		
Tax_Management4			0.852		
Tax_Management5			0.784		
Payables_Management1		0.88			
Payables_Management5		0.8			
Payables_Management6		0.755			
Payables_Management7		0.812			
Governance1					0.86
Governance2					0.804
Governance3					0.808
Governance5					0.746
Governance6					0.736

Based on Table 1, the outer loading results indicate that all indicators in this study have met the convergent validity criteria. This is demonstrated by each indicator's loading value being above the minimum threshold of 0.700, signifying a strong contribution of each indicator in explaining its respective latent construct. Hence, the measurement model is considered valid and reliable for further analysis.

For the construct of Financial Risk Management, the indicators Man_Risk2, Man_Risk4, Man_Risk6, and Man_Risk9 show high outer loading values of 0.846, 0.782, 0.744, and 0.829 respectively. These values reflect the consistency and relevance of the indicators in capturing the financial risk management practices of MSMEs.

Similarly, the construct Income Tax Management is measured using four indicators, Tax1, Tax3, Tax4, and Tax5, which yield outer loading values of 0.839, 0.712, 0.852, and 0.784. These results indicate that MSME actors consistently perceive and practice income tax management, as reflected in the indicators used.

The Trade Payables Management construct is represented by indicators Payables1, Payables5, Payables6, and Payables7, with loading values of 0.880, 0.800, 0.755, and 0.812 respectively. These values confirm that the construct is validly represented by its indicators with high internal consistency.

For the construct Financial Governance, six indicators (Governance1 to Governance6) demonstrate strong outer loadings of 0.860, 0.804, 0.808, 0.746, and 0.736. These values suggest that the financial governance practices implemented by MSMEs in South Tangerang are well captured by the indicators.

Lastly, the Debt Ratio construct is measured by two key indicators, Debt to Asset Ratio (DAR) and Debt to Equity Ratio (DER), both of which have exceptionally high outer loading values of 0.997. This indicates that these two indicators are highly representative of the overall debt ratio construct.

Discriminant Validity

Discriminant validity is assessed by comparing the correlation of each indicator with its own construct against correlations with other constructs (cross-loading analysis). A model satisfies discriminant validity if each indicator correlates more strongly with its own construct than with others, which confirms that each construct is distinct and well differentiated.

Table 2. Cross Loadings Table

Indicator	Financial Risk Management	Trade Payables Management	Income Tax Management	Debt Ratio	Financial Governance
DAR	0.067	-0.11	-0.092	0.997	0.109
DER	0.066	-0.103	-0.083	0.997	0.118
Fin_Risk2	0.846	0.43	0.52	0.174	0.658
Fin_Risk4	0.782	0.506	0.558	0.088	0.551
Fin_Risk6	0.744	0.393	0.491	0.013	0.553
Fin_Risk9	0.829	0.626	0.613	-0.063	0.56
Tax_Mgmt1	0.512	0.595	0.839	0.061	0.467
Tax_Mgmt3	0.44	0.568	0.712	-0.217	0.215
Tax_Mgmt4	0.683	0.611	0.852	-0.138	0.559
Tax_Mgmt5	0.499	0.56	0.784	0.016	0.36

Indicator	Financial Risk Management	Trade Payables Management	Income Tax Management	Debt Ratio	Financial Governance
Paya-bles_Mgmt1	0.511	0.88	0.691	-0.057	0.345
Paya-bles_Mgmt5	0.524	0.8	0.533	-0.024	0.453
Paya-bles_Mgmt6	0.453	0.755	0.542	-0.247	0.24
Paya-bles_Mgmt7	0.503	0.812	0.602	-0.037	0.395
Governance1	0.617	0.368	0.473	0.204	0.86
Governance2	0.681	0.416	0.397	0.207	0.804
Governance3	0.516	0.262	0.405	0.119	0.808
Governance5	0.547	0.297	0.373	-0.004	0.746
Governance6	0.469	0.411	0.422	-0.15	0.736

Table 2 presents the cross-loading values used to evaluate discriminant validity, which assesses the extent to which an indicator reflects its designated construct more strongly than other constructs. Discriminant validity is considered satisfactory if an indicator's loading on its intended construct is higher than its loadings on other constructs (Hair et al., 2014). The results indicate that each indicator displays its highest loading on its respective construct, thereby meeting the discriminant validity criteria.

For instance, the indicator Fin_Risk2 has its highest loading (0.846) on the Financial Risk Management construct, significantly higher than its loadings on Financial Governance (0.658), Income Tax Management (0.520), and others. Similar patterns are observed with Fin_Risk4, Fin_Risk6, and Fin_Risk9, confirming their strong association with the Financial Risk Management construct.

Likewise, indicators of the Income Tax Management construct, Tax_Mgmt3, Tax_Mgmt4, and Tax_Mgmt5, exhibit their highest loadings on the intended construct. The same is true for the Trade Payables Management construct, where all indicators (Payables_Mgmt1 to Payables_Mgmt7) load most strongly on their target variable.

For the Financial Governance construct, all indicators (Governance1 to Governance6) demonstrate greater loadings on their designated construct than on others. For example, Governance1 has a loading of 0.860 on its intended construct, while loadings on other constructs range only from 0.109 to 0.617. Finally, the Debt Ratio construct, measured by DAR and DER, shows very strong loadings of 0.997 with low cross-loadings elsewhere, confirming excellent discriminant validity.

Average Variance Extracted (AVE), Composite Reliability, and Cronbach's Alpha AVE

Values should exceed 0.5 to demonstrate good discriminant validity. Additionally, Composite Reliability (CR) is used to test the internal consistency of indicators within a construct. A CR value greater than 0.7 indicates that the construct is reliable. These metrics collectively validate the measurement model before proceeding to structural analysis.

Table 3. Reliability and Validity Summary

Construct	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Financial Risk Management	0.813	0.817	0.877	0.642
Trade Payables Management	0.828	0.831	0.886	0.661
Income Tax Management	0.811	0.838	0.875	0.638
Debt Ratio	0.993	0.994	0.997	0.993
Financial Governance	0.851	0.862	0.893	0.627

Table 3 presents the results of construct reliability and convergent validity tests using three key indicators: Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE). These measures assess the extent to which the indicators used in this study consistently and accurately reflect the intended constructs.

All constructs show Cronbach's Alpha values above the minimum threshold of 0.7 (Hair et al., 2014), indicating strong internal reliability. Specifically, Financial Risk Management has an alpha of 0.813, Trade Payables Management is 0.828, and Income Tax Management is 0.811. Financial Governance is also reliable at 0.851, while Debt Ratio records the highest score at 0.993, indicating excellent consistency.

For rho_A, considered a more precise reliability estimator in reflective models, all constructs again surpass the 0.7 threshold. Debt Ratio leads with 0.994, followed by Income Tax Management (0.838), Trade Payables Management (0.831), Financial Risk Management (0.817), and Financial Governance (0.862), confirming high internal consistency.

Composite Reliability values are all above 0.8, which means the indicators effectively represent their latent constructs. Debt Ratio again scores the highest at 0.997, showing exceptional reliability.

Average Variance Extracted (AVE) is used to assess convergent validity.

A value above 0.5 indicates that more than 50% of the variance in indicators is explained by the construct (Fornell & Larcker, 1981). All constructs meet this criterion, with Debt Ratio again scoring highest at 0.993. The other constructs also show acceptable AVE values, ranging from 0.627 to 0.661.

Table 4. R Square Values

Variable	R Square	Adjusted R Square
Financial Risk Management	0.671	0.642

Table 4 presents the R Square and Adjusted R Square values for the construct Financial Risk Management. The R Square value of 0.671 indicates that approximately 67.1% of the variance in Financial Risk Management can be explained by the independent variables: Financial Governance, Debt Ratio, Business Debt Management, and Income Tax Management. This means that these four constructs significantly contribute to explaining the dynamics of risk management practices among MSMEs in South Tangerang.

The Adjusted R Square value of 0.642 refines this estimate by accounting for the number of predictors in the model. The small difference between R Square and Adjusted R Square suggests that the model is both powerful and efficient, with minimal overfitting. This supports the conclusion that the model structure is stable and representative.

Hypothesis Testing

Following the confirmation of instrument validity and reliability, as well as structural model evaluation via R Square, the next step involves hypothesis testing. This aims to determine whether each independent variable, Financial Governance, Debt Ratio, Business Debt Management, and Income Tax Management, has a significant effect on the dependent variable, Financial Risk Management, within MSMEs in South Tangerang.

This test uses path analysis through the Partial Least Squares (PLS) method. Significance is assessed using t-statistics and p-values. The results of this hypothesis test provide the foundation for concluding whether each determinant has a real influence on financial risk management practices.

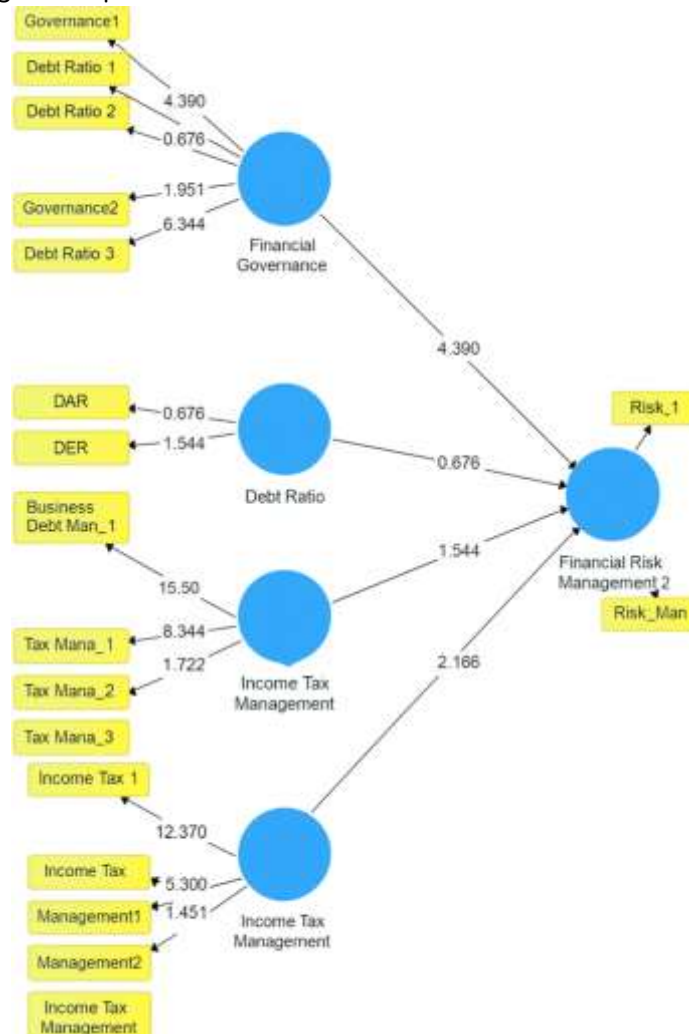


Figure 8. PLS Bootstrapping for Hypothesis Testing

Figure 8 presents the results of the bootstrapping analysis, which was conducted to test the significance of the relationships between constructs in the structural model. This test aims to determine whether the path coefficients between latent variables, such as Financial Governance, Debt Ratio, Business Debt Management, and Income Tax Management, significantly influence Financial Risk Management among SMEs. The significance decision is based on the t-statistic value, where a hypothesis is considered statistically significant if the t-statistic exceeds 1.96 at a 5% significance level (two-tailed). To facilitate interpretation, the following table summarizes the hypothesis testing results based on the bootstrapping analysis.

Table 5. Path Coefficients

Relationship	Path Coefficients				
	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Business Debt Management → Financial Risk Management	0.187	0.213	0.121	1.544	0.123
Income Tax Management → Financial Risk Management	0.302	0.275	0.139	2.166	0.031
Debt Ratio → Financial Risk Management	0.059	0.058	0.088	0.676	0.5
Financial Governance → Financial Risk Management	0.478	0.502	0.109	4.39	0

Based on Table 5, the results of hypothesis testing reveal the direct effects of several constructs on Financial Risk Management among MSMEs in South Tangerang. Of the four tested paths, only two demonstrate statistically significant effects at the 5% significance level.

1. Financial Governance has a significant positive influence on Financial Risk Management, with a path coefficient of 0.478, a t-statistic of 4.390, and a p-value of 0.000. This indicates that better financial governance improves the effectiveness of risk management practices among MSMEs. Therefore, the hypothesis is accepted.
2. Income Tax Management also significantly influences Financial Risk Management, with a coefficient of 0.302, a t-statistic of 2.166, and a p-value of 0.031. This suggests that effective tax management enhances MSMEs' ability to manage financial risks. Thus, the hypothesis is supported.
3. Business Debt Management shows a positive but statistically insignificant effect, with a coefficient of 0.187, a t-statistic of 1.544, and a p-value of 0.123. Hence, the related hypothesis is rejected.
4. Debt Ratio has a very weak and statistically insignificant impact, with a coefficient of 0.059, a t-statistic of 0.676, and a p-value of 0.500. As a result, the hypothesis regarding its effect on financial risk management is also rejected.

The Effect of Financial Governance on Financial Risk Management

The study found that Financial Governance has a significant positive impact on Financial Risk Management among MSMEs in South Tangerang. A well-structured financial governance system, encompassing transparency, accountability, and compliance, enhances the effectiveness of risk management practices. Based on agency theory (Jensen & Meckling, 1976), even within MSMEs where the owner and manager are typically the same person, structured governance can reduce biases and decision-making errors.

These findings are consistent with Muriithi et al. (2016), who emphasized the importance of structured financial practices in mitigating financial risk in small businesses. Ismail and King (2007) further assert that proper governance enables better risk identification and mitigation. Good governance also supports business sustainability through better cash flow and preparedness for market fluctuations (Abor & Biekpe, 2006).

The implications are clear: MSMEs should adopt basic financial systems, such as routine bookkeeping and financial reporting, even at a small scale. Digital tools can also support governance by providing accurate financial data. For policymakers, the findings highlight the importance of promoting financial literacy and providing ongoing assistance for MSMEs to strengthen governance capabilities.

The Effect of Income Tax Management on Financial Risk Management

Income Tax Management also significantly affects Financial Risk Management. Sound tax management contributes to risk mitigation by ensuring compliance and avoiding financial penalties. According to tax compliance theory (Allingham & Sandmo, 1972), better understanding of tax obligations leads to higher compliance and lower financial risk.

This aligns with findings by Palil and Mustapha (2011) and Richardson (2006), who noted that efficient tax management leads to better cash flow planning and financial transparency, both of which are critical for risk control. However, many Indonesian MSMEs struggle with tax literacy and manual record-keeping, increasing their exposure to fiscal risk.

The study suggests that authorities should expand tax education and consultation services for MSMEs. At the same time, MSMEs need to develop internal systems to manage tax obligations efficiently. The use of accounting applications and online tax modules can be cost-effective solutions. Incorporating tax planning as part of financial strategy can strengthen fiscal resilience and improve the business's credibility with financial institutions.

The Effect of Business Debt Management on Financial Risk Management

Business Debt Management exhibits a positive yet statistically insignificant effect on Financial Risk Management among MSMEs in South Tangerang. Although debt management is part of structural financial policy, linked to liquidity and funding decisions, its impact was not significant in this context. According to the capital structure theory by Modigliani and Miller (1958), debt can enhance firm value through leverage, but also introduces financial risk if poorly managed.

This insignificant result may stem from low financial literacy among MSME actors regarding debt strategies. Many MSMEs acquire debt without planning for repayment structure, interest burden, or financial capacity. Fatoki and Asah (2011) observed that debt decisions in MSMEs tend to be reactive rather than strategic. Additionally, MSMEs often rely

on informal debt sources, like family loans or digital lending apps, without proper documentation or risk integration. Tambunan (2019) highlights that such informal financing lacks control mechanisms to ensure long-term sustainability.

The findings suggest the need for capacity-building programs focusing on structured debt planning. Local governments and financial institutions should collaborate to educate MSMEs on debt budgeting, cash flow projection, and repayment prioritization. Business actors should be guided to incorporate debt strategies into formal financial risk management systems, enhancing creditworthiness and operational resilience.

From an academic perspective, this result reveals a gap between theoretical expectations and practical conditions. As Yeh, Hoshino, and Kusumastuti (2020) noted, debt's influence on financial risk is context-dependent, especially in informal, owner-managed enterprises like MSMEs. Practical guidelines for debt planning, digital bookkeeping tools, and risk management training should be developed and distributed, ideally integrated into loan disbursement processes by microfinance institutions and fintech platforms.

The Effect of Debt Ratio on Financial Risk Management

The Debt Ratio variable shows a very weak and statistically insignificant impact on Financial Risk Management. Conceptually, the debt ratio reflects how much of a business's capital comes from debt relative to equity, with a higher ratio indicating greater financial risk (Brigham & Houston, 2011). However, this assumption is more applicable to large companies than to small, informal businesses like MSMEs.

Many MSMEs do not actively use financial ratios in decision-making. Berry et al. (2006) point out that MSME owners often lack knowledge and discipline in managing financial metrics, leading to irrelevant or inaccurate debt ratio calculations. Furthermore, MSMEs frequently obtain unrecorded loans from informal sources, making financial statements unreliable. Wulandari and Kassim (2016) found that most Indonesian MSMEs lack proper accounting systems, making their financial ratios a poor reflection of actual risk.

This indicates that improving financial risk management cannot rely solely on strengthening financial ratios. Instead, capacity-building efforts should focus on improving financial reporting and managerial skills. Basic accounting training, accurate recordkeeping, and practical ratio analysis workshops are essential.

For policy implications, local governments should develop training modules on debt ratios and other early warning tools for financial crises. These should be complemented with digital accounting apps to help MSMEs maintain structured records. Although this study found no significant impact from the debt ratio, it remains a potentially useful indicator—provided MSMEs are equipped to use it.

The study calls for a holistic approach to strengthening MSME financial resilience through education, technical training, and digital infrastructure. This way, debt ratio and similar metrics can be transformed into meaningful tools for financial decision-making and risk mitigation.

CONCLUSION

This study investigates the influence of business debt management, income tax management, debt ratio, and financial governance on financial risk management among micro, small, and medium enterprises. The findings reveal that financial governance and income tax management significantly contribute to enhancing financial risk mitigation. Well-structured financial governance practices ensure better control over financial operations, while effective income tax planning supports regulatory compliance and reduces fiscal uncertainties, ultimately strengthening risk management frameworks. In contrast, business debt management and debt ratio do not demonstrate significant effects on financial risk management. This may reflect limited financial literacy among MSMEs, particularly in strategic debt planning and the use of financial ratios as managerial tools. Many enterprises operate informally and rely on unrecorded financing sources, which affects the reliability and usability of debt-related indicators in financial decision-making. The results imply a need for capacity development programs that focus not only on compliance but also on strategic financial planning and literacy. Stakeholders, including local governments and financial institutions, should collaborate to improve MSMEs' understanding of risk-oriented financial practices. By integrating formal financial principles into their operations, MSMEs can enhance their resilience, ensure sustainability, and navigate uncertainties in increasingly complex economic environments. These efforts are essential for long-term growth and stability.

REFERENCE

- Berry, A. J., Sweeting, R., & Goto, J. (2006). The Effectiveness of Business Support Services in Improving the Performance of Small Businesses: A Literature Review. *Journal of Small Business and Enterprise Development*, 13(4), 503–528. <https://doi.org/10.1108/14626000610705785>
- Brigham, E. F., & Houston, J. F. (2011). *Fundamentals of Financial Management* (13th ed.). Cengage Learning.
- Fatoki, O., & Asah, F. (2011). The Impact of Firm and Entrepreneurial Characteristics on Access to Debt Finance by SMEs in King Williams' Town, South Africa. *International Journal of Business and Management*, 6(8), 170–179. <https://doi.org/10.5539/ijbm.v6n8p170>
- Ghozali, I. (2018). *Aplikasi Analisis Multivariate dengan Program IBM SPSS 25*. Semarang: Badan Penerbit Universitas Diponegoro.
- Modigliani, F., & Miller, M. H. (1958). The Cost of Capital, Corporation Finance and the Theory of Investment. *The American Economic Review*, 48(3), 261–297.
- Tambunan, T. (2019). *Usaha Mikro, Kecil dan Menengah di Indonesia: Isu-Isu Penting*. Jakarta: LP3ES.
- Wulandari, P., & Kassim, S. (2016). Issues and Challenges in Financing the Micro and Small Enterprises: A Case of Indonesia. *International Journal of Bank Marketing*, 34(5), 654–669. <https://doi.org/10.1108/IJBM-01-2015-0010>

- Yeh, Y., Hoshino, Y., & Kusumastuti, R. (2020). SME Financing and Risk Management in Southeast Asia. *Asia-Pacific Financial Markets*, 27, 67–90. <https://doi.org/10.1007/s10690-019-09264-w>
- Hair, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (2nd ed.). SAGE Publications.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The Use of Partial Least Squares Path Modeling in International Marketing. *Advances in International Marketing*, 20, 277–319.
- Kurniawan, T. (2020). Literasi Keuangan dan Manajemen Risiko UMKM. *Jurnal Ekonomi dan Bisnis*, 9(2), 109–117.
- Purwanti, I., & Nugroho, S. (2021). Pengaruh Tata Kelola Keuangan terhadap Kinerja UMKM. *Jurnal Riset Akuntansi dan Keuangan*, 13(1), 45–58.
- Rahmawati, E., & Lestari, M. (2022). Strategi Pengelolaan Pajak untuk UMKM di Indonesia. *Jurnal Pajak Indonesia*, 5(1), 75–85.
- Sunaryo, S., & Widodo, T. (2019). Pengaruh Rasio Keuangan terhadap Risiko Keuangan pada Perusahaan Menengah. *Jurnal Keuangan dan Perbankan*, 17(3), 211–223.
- Mulyadi, D. (2021). Digitalisasi Keuangan UMKM dan Tantangannya. *Jurnal Manajemen dan Bisnis*, 12(4), 321–332.
- Widyaningrum, D. (2020). Evaluasi Manajemen Keuangan UMKM Berbasis Risiko. *Jurnal Ekonomi dan Akuntansi*, 8(3), 222–234.
- Handayani, N. D., & Sulistyorini, S. (2021). Peran Pemerintah dalam Penguatan Manajemen Risiko UMKM. *Jurnal Kebijakan Publik*, 6(2), 102–115.
- Rizky, A. M., & Salim, M. A. (2022). Struktur Modal dan Risiko Keuangan UMKM di Era Pandemi. *Jurnal Ekonomi dan Kewirausahaan*, 10(2), 87–98.