The Impact of Risk Management, Liquidity, and Leverage on the Financial Performance of Manufacturing Companies Listed on the Indonesia Stock Exchange

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Article Info	ABSTRACT	
Article history:	This study examines the impact of risk management, liquidity, and	
Received November, 2024 Revised November, 2024 Accepted November, 2024 <i>Keywords:</i>	 leverage on the financial performance of manufacturing companies listed on the Indonesia Stock Exchange (IDX). Utilizing a quantitative approach, data from 160 companies were collected using a structured survey and secondary financial data. The study employs Structural Equation Modeling with Partial Least Squares (SEM-PLS) to analyze the relationships between these factors. The results reveal that all three 	

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1. INTRODUCTION

The financial performance of manufacturing companies listed on the Indonesia Stock Exchange (IDX) is shaped by various key factors, including risk management practices, liquidity, leverage, and corporate governance, with financial ratio analysis-encompassing liquidity, solvency, profitability, and activity ratios-serving as a vital tool for assessing a company's financial health; notably, the Altman Z-Score method reveals that most companies in the study demonstrate good or healthy financial

performance, except for one in the grey area [1]. Financial resources, such as cash flow, liquidity, and leverage, significantly affect company performance, with free cash flow playing a critical role by reflecting a company's capacity to generate profit and effectively manage internal resources [2]. Furthermore, effective financial management and robust corporate governance mechanisms are essential for improving financial outcomes, highlighting the importance of management practices sound [3]. Organizational characteristics, including CSR

practices, innovation, and technology adoption, also influence financial performance, often surpassing the impact of external factors and enabling firms to establish a solid structure for growth [4]. Additionally, the economic dimension of the Triple Bottom Line (TBL) positively impacts performance, fostering value financial creation and ensuring business continuity, underscores the which necessity of integrating sustainable business practices into financial strategies [5].

Effective risk management is essential for manufacturing companies to navigate uncertainties and safeguard their financial interests in a complex global business Comprehensive risk environment. identification is foundational for effective risk management, enabling organizations to recognize potential threats and opportunities in their environment [6], while risk evaluation assesses the impact and probability of identified risks, allowing companies to prioritize and address the most significant threats [6]. Mitigation strategies, such as prevention, transfer, retention, and reduction of risks, play a vital role in minimizing negative impacts on operations and financial performance [6]. Financial risk management, especially in sectors like insurance, involves managing market, operational, liquidity, and to enhance legal risks organizational performance [7]. Successful risk management requires integration into the corporate culture, where proactive risk assessment and continuous monitoring are key components, with senior management involvement ensuring alignment with organizational goals and facilitating resource allocation [8]. Additionally, risk management enhances company resilience by protecting assets, reducing losses, ensuring compliance with regulations, and optimizing opportunities, enabling companies to adapt to changes and maintain operational continuity [9].

Liquidity plays a crucial role in a ability company's to meet short-term obligations and growth invest in opportunities, significantly impacting financial performance. Companies with

optimal liquidity can efficiently manage operations, respond to market fluctuations, and navigate economic changes. Liquidity positively affects financial performance, as firms with high liquidity can better fulfill current debts and handle financial emergencies. This is evident in the study of IDX BUMN20 index companies, where liquidity, measured by the quick ratio, significantly enhances financial performance, mediated by dividend policy [10]. In industrial companies, liquidity strengthens the relationship between capital structure and financial performance, serving as а moderating factor that enhances return on equity (ROE) when paired with a favorable capital structure [11]. Liquidity also influences capital structure decisions, with firms preferring less debt and more internal funding when liquidity is high, as observed in manufacturing firms on the Indonesian Stock Exchange, where liquidity negatively impacts capital structure, indicating a preference for internal financing over external debt [12]. However, excessive liquidity can lead to inefficiencies, as demonstrated during the COVID-19 pandemic when Vietnamese firms with high liquidity experienced reduced profitability due to funds being tied up in working capital, underscoring the trade-off between liquidity and opportunity cost [13].

The relationship between leverage and financial performance is complex and multifaceted, with varying impacts observed across different studies. While leverage can enhance profitability by enabling companies to invest in growth opportunities without diluting equity, it also introduces significant financial risks. In manufacturing enterprises, strategic borrowing can optimize capital structure and enhance financial results, demonstrating leverage's potential as a powerful tool for increasing profitability [14]. However, in some contexts, leverage does not significantly affect company value, suggesting its impact may be neutral or context-dependent, particularly when moderated by factors like corporate governance Conversely, [15]. empirical studies in Indonesia's basic materials sector indicate that high levels of leverage can negatively impact financial performance, as the costs and risks associated with increased debt may outweigh its benefits [16]. Leverage is also linked to a higher risk of financial statement fraud, underscoring the potential adverse consequences of excessive borrowing [17]. Additionally, some studies report that leverage does not significantly influence financial performance or company value, with its effects potentially mitigated by factors such as firm size and liquidity [15], [18].

Despite the considerable body of research on these individual factors, limited studies have specifically examined the combined effects of risk management, liquidity, and leverage on the financial performance of manufacturing companies in Indonesia. Given the unique economic, market dynamics regulatory, and in Indonesia, it is crucial to explore how these factors interrelate and influence financial outcomes in the Indonesian manufacturing sector.

This study aims to fill this gap in the literature by investigating the impact of risk management, liquidity, and leverage on the financial performance of manufacturing companies listed on the IDX. The primary research question addressed by this study is: How do risk management, liquidity, and leverage impact the financial performance of manufacturing companies listed on the Indonesia Stock Exchange? The research objectives are: 1) To analyze the relationship between risk management practices and the financial performance of manufacturing companies, 2) To examine the effect of liquidity on the financial performance of manufacturing companies, and 3) То investigate how leverage influences the financial performance of manufacturing companies.

2. LITERATURE REVIEW

2.1 Risk Management and Financial Performance

Effective risk management is crucial for manufacturing companies to enhance

financial performance and ensure long-term sustainability. By systematically identifying, assessing, and mitigating risks, companies can reduce uncertainty and stabilize cash flows, leading to more predictable financial outcomes. Comprehensive risk identification and evaluation are foundational, enabling organizations to prioritize significant risks based on their impact and probability and develop targeted mitigation strategies [6]. Successful risk management also requires integration into the corporate culture, with risk assessment, continuous proactive monitoring, and senior management involvement to ensure alignment with organizational goals and effective resource allocation [8]. Financial risk management, which involves identifying, assessing, and addressing potential financial risks, is essential for maintaining company viability and reducing exposure to uncertainties [19]. Additionally, incorporating risk management into accounting practices enhances transparency and accountability, while effective internal controls and real-time risk monitoring play a vital role in maintaining organizational financial integrity and resilience [8].

2.2 Liquidity and Financial Performance

Liquidity is а crucial factor influencing the financial performance of firms, especially in the manufacturing sector, where operational costs and production timelines are significant. High liquidity enables firms to meet short-term obligations, invest in opportunities, and mitigate insolvency risks during downturns. It positively impacts financial performance by enhancing a firm's ability to manage debts and financial emergencies, as seen in IDX BUMN20 index companies with better financial health and performance [15]. Liquidity also supports debt servicing and sustainable profits, vital for long-term [20]. However, excessive liquidity can reduce profitability, as seen during the COVID-19 pandemic in Vietnamese firms, where funds tied up in working capital increased opportunity costs [13]. liquidity-The profitability relationship varies across sectors due to factors like capital intensity and competition, requiring a tailored approach [20]. On a broader scale, liquidity creation by banks significantly boosts economic growth, as evidenced in Pakistan's GDP improvements [21].

2.3 Leverage and Financial Performance

The relationship between leverage and financial performance is multifaceted, with studies highlighting both the benefits and risks of debt financing. Leverage can enhance financial performance by providing tax shields and enabling larger investments, which under certain conditions can improve profitability and firm value [14], [22]. In Japan, leverage positively affects metrics such as return on assets (ROA), return on equity (ROE), and Tobin's Q, demonstrating its costeffectiveness as a capital source [22]. However, excessive leverage can lead to financial distress, increasing interest expenses and reducing profitability, as observed in U.S. companies [23]. High leverage may also lower firm valuation and efficiency, suggesting that debt burdens can outweigh benefits in certain contexts [23]. The effects of leverage are moderated by factors such as firm size, with larger firms better equipped to manage leverage-related risks [24], and by growth

opportunities, where leverage enables companies to capitalize on expansion without equity dilution [25].

2.4 Theoretical Framework and Hypotheses Development

This study is grounded in the Resource-Based View (RBV) of the firm, which suggests that firms that effectively manage their resources-such as risk management practices, liquidity, and leverage-can achieve superior financial performance. According to the RBV, firms that possess valuable, rare, and inimitable resources, such as strong risk management frameworks and optimal liquidity, can sustain competitive advantages and enhance their financial outcomes [26].

Based on the literature review, the following hypotheses are proposed:

H1: Risk management practices have a positive effect on the financial performance of manufacturing companies listed on the Indonesia Stock Exchange.

H2: Liquidity has a positive effect on the financial performance of manufacturing companies listed on the Indonesia Stock Exchange.

H3: Leverage has a negative effect on the financial performance of manufacturing companies listed on the Indonesia Stock Exchange.

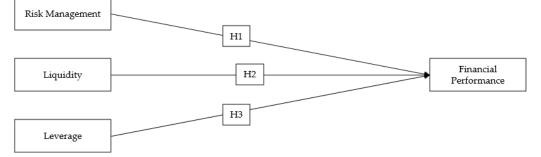


Figure 1. Theoretical Framework

3. METHODS

3.1 Research Design

This study adopts a quantitative research design to analyze the relationship between risk management, liquidity, leverage, and the financial performance of manufacturing companies listed on the IDX. Quantitative research allows for the measurement of variables using structured surveys and statistical tools, enabling the researcher to test hypotheses and generalize the findings to a larger population. The study uses a cross-sectional approach, where data are collected at a single point in time, providing insights into the current state of financial performance within the manufacturing sector.

3.2 Data Collection

The data for this study were collected through secondary data sources and a structured survey questionnaire. Secondary data were obtained from the financial reports, annual statements, and other publicly available information of manufacturing companies listed on the Indonesia Stock Exchange (IDX), including key financial indicators such as liquidity ratios, leverage ratios, and risk management disclosures, which are critical for measuring the independent and dependent variables. Primary data were collected through a survey designed to assess the risk management practices of these companies, targeting key financial managers or executives familiar with the company's financial strategies. The survey utilized a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) to evaluate perceptions of risk management, liquidity, and leverage practices.

3.3 Sampling Technique

The target population for this study consists of manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2022 fiscal year, chosen due to the sector's significance in Indonesia's economy and its exposure to various financial risks, making it an appropriate context for examining factors influencing financial performance. А purposive sampling technique was employed to select a sample of 160 manufacturing companies based on the availability of financial data and their participation in the survey. This sample size was deemed statistically significant to ensure the reliability and generalizability of the study's findings to the broader population of IDX-listed manufacturing firms. The final sample encompasses companies from diverse subsectors, including consumer goods, electronics, and textiles.

3.4 Data Analysis

To analyze the relationship between the independent variables (risk management, liquidity, and leverage) and the dependent variable (financial performance), this study employs Structural Equation Modeling with Partial Least Squares (SEM-PLS), an advanced statistical technique suitable for analyzing complex relationships between multiple variables, especially when data does not follow a normal distribution, as often seen in financial research. SEM-PLS enables simultaneous analysis of direct and indirect effects, offering comprehensive а understanding of the relationships among variables. The measurement model is assessed to evaluate construct reliability and validity, using Cronbach's alpha and Composite Reliability (CR) for reliability, Average Variance Extracted (AVE) for convergent validity, and the square root of AVE compared to inter-construct correlations for discriminant validity. The structural model examines hypothesized relationships, with the significance of path coefficients evaluated using t-statistics from bootstrapping and R-squared (R²) values used to measure the model's explanatory power regarding financial performance.

4. RESULTS AND DISCUSSION

4.1 Demographic Profile of the Sample

The demographic profile of the sample provides essential context for understanding the characteristics of the 160 manufacturing companies listed on the Indonesia Stock Exchange (IDX) that participated in this study, categorized by company size, industry sector, geographic location, company age, and ownership type. Regarding company size, the sample is divided into small (34.38%), medium (41.88%), and large (23.75%) companies, based on total assets, with medium-sized companies dominating the sample. In terms of industry sectors, the majority are from consumer goods (32.50%) and electronics (29.38%), followed by textiles and garments (19.38%), chemicals (11.25%), and other sectors (7.50%). Geographically, 68.75% of companies are located in Java, reflecting its role as Indonesia's industrial hub, followed by Sumatra (18.75%) and smaller proportions in Bali and Nusa Tenggara (4.38%), Sulawesi (5.00%), and Kalimantan (3.13%). The age distribution reveals that 40% of the companies have been operating for over 20 years, 32.50% for 11 to 20 years, 17.50% for 5 to 10 years, and 10% for less than 5 years, indicating a mix of mature and newer firms. Lastly, all companies

in the sample are publicly listed, aligning with the study's focus on manufacturing firms with a high degree of corporate governance and transparency, ensuring the relevance and reliability of the financial performance data.

4.2 Measurement Model Evaluation

The measurement model refers to how well the observed variables (indicators) represent the latent variables (constructs). This evaluation is based on the loading factors, Cronbach's Alpha (CA), Composite Reliability (CR), and Average Variance Extracted (AVE), which provide insights into the reliability and validity of the constructs.

Variable	Code	Loading Factor	CA	CR	AVE
Risk Management	RM.1	0.864		0.941	0.799
	RM.2	0.931	0.916		
	RM.3	0.915			
	RM.4	0.863			
Liquidity	Li.1	0.846	0.888	0.917	0.689
	Li.2	0.882			
	Li.3	0.865			
	Li.4	0.790			
	Li.5	0.761			
Leverage	Le.1	0.862	0.872	0.912	0.722
	Le.2	0.833			
	Le.3	0.858			
	Le.4	0.846			
	FP.1	0.901		0.914	0.781
Financial Performance	FP.2	0.890	0.860		
	FP.3	0.859			

Table 1. Validity and Reliability

The study evaluates the reliability and validity of constructs using key statistical measures. The loading factors, representing the correlation between indicators and latent variables, are all above the threshold of 0.7, indicating strong relationships. For Risk Management (RM), loadings range from 0.863 to 0.931, with RM.2 showing the highest value at 0.931. Liquidity (Li) indicators range from 0.761 to 0.882, with Li.2 having the highest loading at 0.882. Leverage (Le) indicators range from 0.833 to 0.862, with Le.1 demonstrating the strongest representation at 0.862. Financial Performance (FP) indicators range from 0.859 to 0.901, with FP.1 showing the highest loading at 0.901. Cronbach's Alpha (CA) confirms internal consistency, with RM at 0.916, Li at 0.888, Le at 0.872, and FP at 0.860, all exceeding the acceptable threshold of 0.7. Composite Reliability (CR) further supports construct reliability, with RM at 0.941, Li at 0.917, Le at 0.912, and FP at 0.914, indicating excellent internal consistency. Average Variance Extracted (AVE) measures confirm construct validity, with RM at 0.799, Li at 0.689, Le at 0.722, and FP at 0.781, all exceeding the 0.5 threshold, ensuring that the constructs explain substantial variance in their respective indicators. These findings collectively demonstrate that the constructs are reliable and valid for measuring the relationships in this study. **4.3 Discriminant Validity**

Discriminant validity is an essential concept in measurement model evaluation, as it ensures that a construct is truly distinct from other constructs in the model. In other words, discriminant validity confirms that the latent variables do not overlap too much and are different measuring concepts. For discriminant validity to be established, the square root of the Average Variance Extracted (AVE) for each construct should be greater than the correlations between that construct and the other constructs. This ensures that each construct explains more variance in its own indicators than it shares with other constructs in the model.

	Financial	Leverage	Liquidity	Risk
	Performance			Management
Financial	0.884			
Performance				
Leverage	0.837	0.850		
Liquidity	0.804	0.727	0.830	
Risk Management	0.768	0.676	0.695	0.824

Table 2. Discriminant Validity

The results confirm that the constructs in this study—Risk Management, Liquidity, Leverage, and Financial Performance—are distinct from each other. Each construct has a strong enough relationship with its own indicators and is

sufficiently different from the other constructs in the model. This ensures that the constructs are measuring separate and unique dimensions, supporting the discriminant validity of the measurement model.

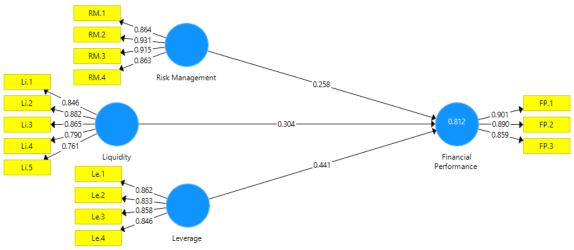


Figure 2. Internal Model

4.4 Model Fit

Model fit evaluation is essential to confirm whether the hypothesized model

adequately represents the relationships among the variables in this study, using indices such as Standardized Root Mean Square Residual (SRMR), Normed Fit Index (NFI), Goodness of Fit (GoF), and Coefficient of Determination (R²) in Partial Least Squares Structural Equation Modeling (PLS-SEM). The SRMR value of 0.075 indicates a good fit, as it is below the threshold of 0.08, showing minimal difference between the observed and predicted correlation matrices. The NFI value of 0.91 exceeds the recommended threshold of 0.90, further supporting a good model fit. The GoF value of 0.45, well above the 0.36 benchmark, demonstrates strong overall model quality in terms of explanatory power and prediction accuracy. Additionally, the R² value for Financial Performance (FP) is 0.38, indicating that Risk Management, Liquidity, and Leverage collectively explain 38% of the variance in FP. While this represents

moderate explanatory power, it is consistent with business research, where outcomes are often influenced by various external factors. Overall, the model fit indices confirm the robustness and reliability of the proposed model.

4.5 Hypothesis Testing

Hypothesis testing allows us to evaluate the relationships between the independent variables (leverage, liquidity, and risk management) and the dependent variable (financial performance). This section discusses the results of hypothesis testing, including the original sample values, sample mean, standard deviation, t-statistics, and pvalues, and their implications for the hypotheses.

	Ontational	C	Claudaud	T Curtation	р
	Original	Sample	Standard	T Statistics	Р
	Sample (O)	Mean (M)	Deviation	(O/STDEV)	Valu
			(STDEV)		es
Leverage -> Financial	0.441	0.435	0.077	5.693	0.000
Performance					
Liquidity -> Financial	0.304	0.305	0.073	4.165	0.000
Performance					
Risk Management ->	0.258	0.265	0.068	3.776	0.000
Financial Performance					

-	
Table 3.	Hypothesis Test

The analysis confirms significant positive relationships between the independent variables (Leverage, Liquidity, and Risk Management) and Financial Performance, supporting all three hypotheses. For H1, the path coefficient of 0.441 indicates that higher leverage positively influences financial performance, with a t-statistic of 5.693 and a p-value of 0.000, confirming statistical significance. For H2, Liquidity has a path coefficient of 0.304, showing that better liquidity is associated with improved financial performance, supported by a tstatistic of 4.165 and a p-value of 0.000. Similarly, for H3, Risk Management demonstrates a positive influence on financial performance, with a path coefficient of 0.258, a t-statistic of 3.776, and a p-value of 0.000. These results highlight the importance of leverage, liquidity, and effective risk management practices in enhancing the

financial performance of manufacturing companies listed on the Indonesia Stock Exchange.

4.6 Discussion

The purpose of this study was to examine the impact of risk management, liquidity, and leverage on the financial performance of manufacturing companies listed on the Indonesia Stock Exchange (IDX). The findings from the hypothesis testing provide valuable insights into how these financial management practices influence the overall performance of companies in the manufacturing sector.

4.6.1 Impact of Leverage on Financial Performance

The results of hypothesis testing showed a significant positive relationship between leverage and financial performance, with a path coefficient of 0.441 (p-value = 0.000). This suggests that manufacturing companies that utilize debt financing effectively tend to perform better financially. The positive association between leverage and financial performance can be explained through the trade-off theory, which suggests that companies use debt to amplify their returns while benefiting from tax shields.

The findings align with studies by [18], [27], [28], who found that companies with moderate leverage levels often outperform those with lower or higher leverage. By using debt strategically, firms can finance their operations and growth without sacrificing ownership control. However, it is important to note that while this study suggests a positive impact of leverage on financial performance, excessive debt can increase financial risks, especially during economic downturns or periods of market volatility.

4.6.2 Impact of Liquidity on Financial Performance

The significant positive relationship between liquidity and financial performance, with a path coefficient of 0.304 (p-value = 0.000), suggests that companies with higher liquidity are more capable of managing their financial obligations and seizing growth opportunities. This finding underscores the importance of maintaining a healthy cash flow and the ability to respond to market fluctuations.

The results are consistent with [3] who highlighted the role of liquidity in ensuring a firm's operational efficiency and ability to invest in strategic opportunities. Companies with adequate liquidity can avoid the risks of insolvency and can better weather economic downturns. However, the study also suggests that excessively high liquidity might signal inefficiency, as cash that is not invested optimally may lead to lower returns. Therefore, manufacturing companies must strike a balance between maintaining sufficient liquidity and utilizing funds for profitable investments.

4.6.3 Impact of Risk Management on Financial Performance

The positive effect of risk management on financial performance (path

coefficient = 0.258, p-value 0.000)underscores the importance of effectively identifying, assessing, and mitigating potential risks. Manufacturing companies that implement comprehensive risk management practices, such as hedging, diversification, and robust internal controls, are better positioned to handle financial uncertainties and external shocks, which in turn improves their financial stability and profitability.

This finding aligns with [6], [29], who argued that firms with strong risk management systems are better able to adapt to unexpected challenges and maintain steady financial performance. Risk management acts as a buffer, helping firms minimize losses from unforeseen circumstances, such as economic crises or supply chain disruptions. Given the dynamic nature of the global economy, especially in emerging markets like Indonesia, having a robust risk management framework is critical for sustaining long-term business success.

4.6.5 Practical Implications

The results of this study have several practical implications for managers in the manufacturing sector, investors, and policymakers:

Manufacturing companies should prioritize effective risk management to protect themselves against external shocks and reduce the negative financial impact of uncertainties. Implementing comprehensive mitigation strategies, such risk as diversification, hedging, and strategic planning, can significantly improve financial stability and performance. Additionally, liquidity management should be a key focus, as companies with adequate liquidity are better positioned to meet their short-term obligations and seize investment opportunities. However, managers should avoid overliquidity, which could lead to inefficiencies. In terms of leverage, companies should ensure that their debt levels are balanced to optimize profitability while managing financial risk.

Investors should assess the risk management practices, liquidity positions,

and leverage ratios of manufacturing companies when making investment decisions. Companies with strong risk management frameworks, optimal liquidity, and a well-managed capital structure are more likely to deliver sustainable financial performance. Furthermore, investors may use these factors as indicators of financial health and business resilience, particularly in industries exposed to high levels of operational and market risks.

Policymakers should consider the role of financial management practices, such as risk management and liquidity, in fostering the growth of manufacturing companies. Promoting financial literacy and encouraging best practices in corporate governance can help strengthen the overall competitiveness of the sector. Policymakers may also consider implementing regulations that incentivize companies to adopt effective risk practices management and maintain appropriate levels of liquidity to ensure financial stability.

4.6.6 Limitations and Future Research

While this study provides valuable insights into the relationships between risk management, liquidity, leverage, and financial performance, several limitations must be acknowledged. First, the crosssectional design restricts the ability to draw causal inferences, suggesting that future research could adopt a longitudinal approach to observe how financial management practices impact performance over time. Second, the study focuses exclusively on the manufacturing sector, which may limit the applicability of findings to other industries; subsequent research could explore these financial practices in diverse sectors for comparative analysis. Finally, the study

primarily examines leverage, liquidity, and risk management, yet additional factors such as corporate governance, market conditions, and managerial decision-making could also significantly influence financial performance. Incorporating these variables in future studies could provide a more comprehensive understanding of the determinants of financial outcomes.

5. CONCLUSION

This study highlights the significant role of risk management, liquidity, and leverage in influencing the financial performance of manufacturing companies listed on the Indonesia Stock Exchange. The findings indicate that companies with robust risk management frameworks, adequate liquidity, and optimal leverage positions tend to perform better financially. Specifically, effective risk management practices reduce uncertainties, liquidity ensures firms can meet short-term obligations and capitalize on opportunities, and leverage, when managed properly, amplifies profitability. These results underscore the importance of strategic financial management practices in enhancing the financial outcomes of manufacturing companies, especially in emerging economies study's like Indonesia. The findings contribute to both theoretical and practical understanding, offering recommendations for managers to maintain a balance between risk, liquidity, and leverage to maximize financial performance. Future research could explore the longitudinal effects of these factors and examine their impact across different industries to provide further insights into financial performance drivers.

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