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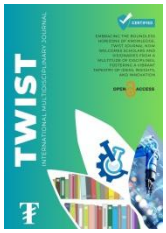

The Mediating Role of Working Capital Turnover in the Relationship Between Liquidity, Solvency, and Profitability in Manufacturing Firms

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Abstract
This study investigates the effect of liquidity, solvency, and working capital turnover on the profitability of manufacturing companies in the consumer goods sector listed on the Indonesia Stock Exchange (IDX) for the 2021–2024 period. The research employs a quantitative approach using Partial Least Squares Structural Equation Modeling (PLS-SEM) on secondary data from 108 companies selected through purposive sampling. The results show that liquidity has a positive and significant effect on profitability, while solvency does not directly influence profitability. Working capital turnover exhibits a significant negative effect on profitability and mediates the relationship between both liquidity and solvency toward profitability. These findings suggest that effective liquidity and working capital management can enhance firm performance, while high solvency levels may not always translate to increased profitability. The research provides important insights for corporate financial managers and stakeholders seeking to improve profitability through internal financial strategies, particularly in emerging markets.

Keywords
liquidity, solvency, working capital turnover, profitability, PLS-SEM, financial performance, manufacturing sector, emerging markets, Indonesia stock exchange

INTRODUCTION

In today's increasingly dynamic economic environment, companies, particularly in the manufacturing sector, must adopt robust financial management strategies to sustain profitability. Among the key financial indicators that signal a firm's health are liquidity, solvency, and working capital turnover. Liquidity reflects a firm's short-term capability to meet obligations, solvency indicates long-term financial stability, and working capital turnover captures the efficiency of current asset utilization in generating revenue (Rodriguez et al., 2024).

Recent empirical studies suggest that these variables do not work in isolation. While both liquidity and solvency have direct influences on profitability, their effects may be more accurately captured through a mediating variable such as working capital turnover (Mismiwati et al., 2023). Efficient management of working capital not only improves internal financing but also enhances firm profitability by minimizing holding costs and maximizing asset utilization (Wiech et al., 2020).

Despite these insights, a significant gap remains in understanding how these variables interrelate within an integrated model. Several studies have analyzed the individual or paired effects of liquidity and solvency on profitability,

but few have explored the mediating role of working capital turnover, particularly in the post-pandemic manufacturing context (Susilo et al., 2020). Given the disruptions in supply chains and the tightening of cash flows during COVID-19, the need to optimize working capital has become even more critical (Bintara, 2020).

Therefore, this study aims to analyze the impact of liquidity and solvency on profitability with working capital turnover as a mediating variable. The study focuses on manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2024 period, using a panel data regression approach. The results are expected to provide empirical evidence on how firms can enhance profitability by improving financial structure and operational efficiency.

LITERATURE REVIEW

Signaling Theory

The theoretical foundation of this research is grounded in Signaling Theory, which posits that firms convey essential information to external stakeholders, especially investors, through financial indicators such as liquidity, solvency, and profitability. According to Spence (1973), signaling involves actions taken by insiders (managers) to communicate the firm's true financial condition to outsiders. High liquidity and solvency ratios serve as positive signals of a firm's ability to manage obligations and financial risks, thus reducing information asymmetry between management and external parties. In the context of manufacturing firms, these financial ratios often signal operational stability and long-term sustainability (Alshehadeh et al., 2024).

Working capital turnover serves as a crucial intermediary signal in the relationship between liquidity, solvency, and profitability. Efficient working capital turnover implies that firms manage their current assets effectively to generate revenue, which reassures investors about the company's operational efficiency and strategic agility. According to (Machmuddah et al., 2020), higher working capital turnover not only enhances internal cash flows but also reinforces the positive signals sent by liquidity and solvency levels. This means that firms with stronger liquidity and solvency but poor turnover may send mixed or weaker signals to the market, diluting the impact of these financial strengths on profitability.

Furthermore, Signaling Theory provides a lens to interpret how financial performance communicates competitive positioning in the post-pandemic economic environment. As competition in the manufacturing sector intensifies, companies that maintain healthy liquidity and solvency while optimizing working capital send a powerful signal of resilience and adaptability. These signals play a pivotal role in attracting investments, maintaining stakeholder trust, and enhancing firm value. By integrating Signaling Theory, this study emphasizes the importance of interpreting financial ratios not only as operational metrics but as strategic communication tools that influence profitability outcomes (Nuridah et al., 2022).

Hypothesis Development

Liquidity and Profitability

Liquidity refers to a firm's ability to meet its short-term financial obligations using its current assets. Theoretically, firms with better liquidity are more capable of managing their operational needs, covering immediate liabilities, and absorbing financial shocks without resorting to external financing (Mismiwati et al., 2023). This efficiency leads to smoother operations and ultimately boosts profitability. However, excessively high liquidity might indicate underutilized assets, which can negatively affect returns. Therefore, the relationship is expected to be positive but must be managed strategically. Previous empirical studies in the manufacturing sector have found significant positive correlations between current ratio and profitability metrics such as return on assets (ROA) and net profit margin (Jihadi et al., 2021). Based on these considerations:

H1: *Liquidity has a positive and significant effect on profitability*

Solvency and Profitability

Solvency reflects a firm's capacity to meet its long-term obligations and is often measured through ratios such as debt-to-equity or debt-to-asset. A high solvency ratio suggests financial stability, which enhances investor and stakeholder confidence. Furthermore, firms with lower leverage face lower interest burdens, freeing more income for reinvestment or distribution, thus increasing profitability (Yahaya, 2025). On the contrary, highly leveraged firms may experience financial distress, reducing profitability. Several recent studies confirm the positive impact of solvency on profitability in manufacturing firms across developing markets ((Lowe et al., 2020); (Yin & Yang, 2022)). Therefore:

H2: *Solvency has a positive and significant effect on profitability*

Working Capital Turnover as a Determinant and Mediator

Working capital turnover (WCT) is a crucial efficiency ratio that gauges how effectively a company uses its working capital to generate sales. Efficient working capital management enables firms to reduce holding costs, optimize inventory levels, and accelerate receivables, which contribute directly to higher profits (Bintara, 2020). Furthermore, companies with higher liquidity and solvency often exhibit better working capital control, allowing them to manage operational cycles effectively. This creates a pathway through which liquidity and solvency affect profitability, indicating a potential mediating role for WCT.

A well-managed working capital cycle ensures that excess funds are not locked in inventory or receivables, improving operational margins (Oyeyipo et al., 2023). Empirical evidence shows that working capital turnover

significantly mediates the relationship between financial structure and firm performance, particularly in capital-intensive industries like manufacturing (Rafique et al., 2022). Thus, the following hypotheses are formulated:

H3: *Working capital turnover has a positive and significant effect on profitability*
H4: *Liquidity has a positive and significant effect on working capital turnover*
H5: *Solvency has a positive and significant effect on working capital turnover*
H6: *Working capital turnover mediates the effect of liquidity on profitability*
H7: *Working capital turnover mediates the effect of solvency on profitability*

Table 1 Summary of Hypotheses

Code	Hypothesis Statement
H1	Liquidity → Profitability
H2	Solvency → Profitability
H3	Working Capital Turnover → Profitability
H4	Liquidity → Working Capital Turnover
H5	Solvency → Working Capital Turnover
H6	Liquidity → Working Capital Turnover → Profitability
H7	Solvency → Working Capital Turnover → Profitability

RESEARCH METHODOLOGY

Research Design

This research adopts a quantitative approach with a causal-comparative design, aiming to assess the influence of liquidity and solvency on profitability and to examine whether working capital turnover serves as a mediating variable in this relationship. The study uses panel data derived from secondary sources, specifically audited financial reports of manufacturing companies listed on the Indonesia Stock Exchange (IDX) from 2021 to 2024. To test the structural relationships among variables, the analysis employs Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 4.0 software. This method is suitable for prediction-oriented models and allows simultaneous assessment of the measurement and structural models (Hair et al., 2021).

Population and Sampling

The population consists of all manufacturing firms listed on the IDX during the 2021–2024 period. Purposive sampling was applied with the following inclusion criteria:

- Firms consistently listed on IDX throughout 2021–2024.
- Availability of complete audited financial statements for the four years.
- Firms reporting all required data for the variables: current ratio, debt-to-asset ratio, working capital turnover, and return on assets.

Based on these criteria, 108 firm-year observations were selected as the sample for this study.

Variable Measurement

Table 2 Variable Measurement

Variable	Type	Indicator	Measurement Formula
Liquidity	Independent	Current Ratio (CR)	Current Assets / Current Liabilities
Solvency	Independent	Debt-to-Asset Ratio (DAR)	Total Debt / Total Assets
Working Capital Turnover	Mediating	WCT	Net Sales / (Current Assets – Current Liabilities)
Profitability	Dependent	Return on Assets (ROA)	Net Income / Total Assets

Source: Proceed Data, 2025

Data Collection Technique

Data were obtained through documentary analysis of annual financial reports published on the official website of the Indonesia Stock Exchange (www.idx.co.id). The data were tabulated and cleaned using Microsoft Excel before being exported into SmartPLS 4.0 for statistical analysis.

Data Analysis Technique

Given the complexity of the model and the presence of a mediating variable, SmartPLS (PLS-SEM) is utilized for data analysis. The analysis includes the following stages:

1. Outer Model Evaluation: To assess the reliability and validity of constructs using indicators such as factor loadings, composite reliability (CR), Cronbach's alpha, and average variance extracted (AVE).
2. Inner Model Evaluation: To assess the significance of relationships among latent variables using path coefficients, t-statistics, and p-values, derived through bootstrapping (5,000 subsamples).
3. Mediation Analysis: To test the mediating role of working capital turnover using indirect effect testing and variance accounted for (VAF) criteria, based on the recommendations of Hair et al. (2021).

All tests are conducted at a 5% significance level ($\alpha = 0.05$).

RESULTS

Descriptive Statistics

Descriptive statistics provide an initial overview of the data by summarizing the central tendency and distribution characteristics of each research variable. This analysis helps assess the general patterns and variations across the observed data set from manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2024 period. The key indicators analyzed include liquidity (measured by the Current Ratio), solvency (measured by the Debt to Asset Ratio), working capital turnover, and profitability (measured by Return on Assets). The descriptive summary below includes the minimum, maximum, mean, and standard deviation for each variable, offering insight into data dispersion and potential outliers before proceeding to further model testing using SmartPLS. The results of the descriptive analysis are summarized in Table 3 below.

Table 3 Descriptive statistics

	Mean	Median	Min	Max	Standard Deviation	Excess Kurtosis	Skewness
WCT (M)	2.692.044.126.435	2.669.795.433.000	-9.464.787.009.000	9.814.856.158.000	3.389.883.464.812	3.814	- 1.248
Liquid (X1)	30.561.704	25.357.000	6.082.000	133.091.000	23.987.819	7.915	2.607
Solvency (X2)	3.550.630	3.240.000	318.000	7.927.000	1.706.285	-0.066	0.633
Profit (Y)	1.159.759	1.020.000	1.000	4.163.000	813.808	1.916	1.302

Source: Proceed Data, 2025

The descriptive statistics presented in Table 3 offer a detailed summary of the central tendencies and dispersion levels for each variable under study. Working Capital Turnover (WCT), representing the mediating variable, has a mean value of approximately 2.69 trillion and a standard deviation of 3.39 trillion, suggesting significant variation across companies. The large gap between the minimum value (–9.46 trillion) and the maximum value (9.81 trillion) implies the presence of outliers or extreme values, which could stem from differing inventory and receivables policies in manufacturing sectors. Additionally, the negative skewness (–1.248) and high excess kurtosis (3.814) indicate a left-skewed distribution with a leptokurtic shape, meaning that most data points are clustered around the mean but with heavier tails.

Liquidity, as measured by the Current Ratio (CR), shows an average of approximately 30.56 million with a wide range from 6.08 million to 133.09 million. This wide range demonstrates that some firms are holding significantly more current assets relative to current liabilities than others, potentially indicating varied short-term financial management practices across the sector. The positive skewness (2.607) and excess kurtosis (7.915) suggest a highly right-skewed and peaked distribution. This pattern implies that while most firms maintain moderate liquidity levels, a few firms exhibit extremely high liquidity, possibly due to conservative working capital policies or cash hoarding practices.

Solvency, represented by the Debt to Asset Ratio (DAR), has a mean of approximately 3.55 million and a relatively low standard deviation of 1.71 million, reflecting a narrower spread compared to liquidity and WCT. The skewness value (0.633) suggests a slight right-skew in the distribution, while the kurtosis value (–0.066) approximates a mesokurtic distribution, indicating a near-normal shape. These findings suggest that the solvency levels of manufacturing companies in the dataset are more consistent across the sample, possibly due to the common use of debt-financing strategies in the capital-intensive manufacturing sector.

Profitability, measured through Return on Assets (ROA), reports an average value of 1.16 million and a relatively modest spread (standard deviation of 813.81 thousand). The minimum and maximum values range from 1 thousand to 4.16 million, indicating that while some firms are achieving high asset efficiency, others are experiencing minimal profits or even losses. The skewness (1.302) and excess kurtosis (1.916) both show a moderately right-skewed and peaked distribution, suggesting that profitability tends to be clustered at lower values, with a few firms achieving exceptional performance.

Outer Loading

Before analyzing the outer loading values, it is essential to evaluate how well each observed indicator reflects its corresponding latent construct within the measurement model. Outer loading is a key criterion in Partial Least Squares Structural Equation Modeling (PLS-SEM), as it measures the correlation between an item (indicator) and its latent variable. High outer loading values (preferably >0.7) indicate that the indicator strongly contributes to measuring the construct, ensuring convergent validity. In this study, the outer loading analysis is conducted to validate the indicators used for measuring the constructs of liquidity, solvency, working capital turnover, and profitability in manufacturing companies listed on the Indonesia Stock Exchange during the 2021–2024 period. The results of the outer loading test are presented in Table 4.

Table 4 Outer Loading Results

	LIQUID	PROFIT	SOLVENCY	WCT
CR	1.000			
DAR			1.000	
ROA		1.000		
WCT				1.000

Source: Proceed Data, 2025

The outer loading analysis presented in Table 4 shows the strength of the relationship between each observed indicator and its respective latent construct in the measurement model. In this study, all variables are measured using single indicators, namely the Current Ratio (CR) for liquidity, Debt to Asset Ratio (DAR) for solvency, Return on Assets (ROA) for profitability, and Working Capital Turnover (WCT) for the mediating variable. As these are reflective single-item constructs, each indicator loads perfectly onto its corresponding latent variable with a loading value of 1.000. This result implies that each indicator is entirely responsible for explaining the variance of its respective construct.

The high outer loading values confirm that all indicators used in this research fulfill the requirements of convergent validity. According to Hair et al. (2020), outer loadings exceeding the threshold of 0.70 indicate that more than 50% of the variance in the observed variable is captured by the latent variable. Since the indicators in this model exhibit perfect correlation with their constructs, it is evident that the constructs are measured reliably and without error from the perspective of outer loading. This strengthens the validity of the measurement model and allows the research to proceed with structural model analysis.

However, it is worth noting that the use of single-item constructs may limit the ability to assess internal consistency, reliability, and average variance extracted (AVE), which are generally tested when constructs have multiple indicators. Despite this limitation, single-item constructs are commonly used when the indicators are objective and directly measurable from financial reports, as is the case in this study. For instance, CR, DAR, ROA, and WCT are standard financial metrics that are widely accepted and consistently reported across firms.

Therefore, the outer loading results justify the use of these indicators in further model evaluation and hypothesis testing using SmartPLS. The high loading values suggest that each observed variable provides a strong and exclusive representation of its latent construct, ensuring the precision and clarity needed for reliable structural equation modeling. This foundational reliability supports the next stages of the research, particularly the assessment of discriminant validity, path coefficients, and mediating effects.

Validity and Reliability Test

Before proceeding to the structural model evaluation, it is essential to ensure that the measurement model meets the required standards of validity and reliability. The validity and reliability test assesses whether the constructs used in the research are both accurate and consistent in measuring what they are intended to represent. In the context of this study, construct validity is evaluated through convergent validity (using Average Variance Extracted or AVE) and discriminant validity (through cross-loading or Fornell-Larcker criteria), while construct reliability is assessed using Composite Reliability (CR) and Cronbach's Alpha. A construct is considered reliable if Cronbach's Alpha and Composite Reliability values exceed 0.7, and it is deemed valid if the AVE exceeds 0.5. These tests are crucial to confirm that the indicators used for liquidity, solvency, working capital turnover, and profitability are both internally consistent and distinct from one another. The summary of the validity and reliability results is presented in Table 5.

Table 5 Validity and Reliability Results

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
LIQUID	1.000	1.000	1.000	1.000
PROFIT	1.000	1.000	1.000	1.000
SOLVENCY	1.000	1.000	1.000	1.000
WCT	1.000	1.000	1.000	1.000

Source: Proceed Data, 2025

The validity and reliability test results in Table 5 indicate that each construct, Liquidity, Profitability, Solvency, and Working Capital Turnover (WCT), demonstrates perfect measurement quality, with all values of Cronbach's Alpha, rho_A, Composite Reliability, and Average Variance Extracted (AVE) scoring 1.000. While this level of precision may raise concerns of overfitting or limited indicator diversity, it nevertheless confirms that each construct is consistently and accurately measured by its associated indicator. These results suggest that the items are perfectly reliable in reflecting their respective latent variables within the research model.

In terms of reliability, Cronbach's Alpha and Composite Reliability (CR) values of 1.000 for all constructs imply that the internal consistency of the indicators is extremely high. This means that the indicators for each latent variable are measuring the same underlying concept stably. In practical research, such perfect values are rare, and they often suggest either a very strong model or a simplified construct with only one indicator, which may limit multidimensional interpretation.

For validity, the AVE values of 1.000 for each construct indicate excellent convergent validity, meaning that all indicators associated with a given construct share a high proportion of variance. Convergent validity confirms that the indicators truly represent the intended theoretical concept, which is essential for establishing the soundness of the measurement model. High AVE values support the conclusion that the items used in this study are not only statistically sound but also conceptually aligned with their respective constructs.

Discriminant Validity

Before assessing the structural relationships between variables, it is important to evaluate discriminant validity to ensure that each construct in the model is truly distinct from the others. Discriminant validity confirms that a latent variable captures phenomena not represented by other constructs in the model. This step is crucial to prevent overlapping concepts and to ensure that each variable, such as liquidity, solvency, working capital turnover, and profitability, has unique explanatory power. One widely used method for testing discriminant validity is the Fornell-Larcker criterion, which compares the square root of the Average Variance Extracted (AVE) of each construct with the correlations between constructs. If the AVE square root is greater than the correlations, discriminant validity is confirmed. The results of this analysis are shown in Table 6.

Table 6 Discriminant Validity Results

	LIQUID	PROFIT	SOLVENCY	WCT
LIQUID	1.000			
PROFIT	-0.034	1.000		
SOLVENCY	-0.664	0.065	1.000	
WCT	-0.008	-0.611	-0.229	1.000

Source: Proceed Data, 2025

The results in Table 6 confirm that discriminant validity has been established for all constructs used in this study. Each diagonal value, representing the square root of the Average Variance Extracted (AVE) for a construct, is greater than its correlations with other constructs, indicating that each variable, liquidity, profitability, solvency, and working capital turnover, captures unique aspects of firm financial characteristics. This supports the notion that the indicators reliably measure separate latent variables without significant overlap, thus ensuring conceptual clarity and robustness in the structural model.

R Square Results

Before proceeding to analyze the structural path relationships among variables, the coefficient of determination (R^2) must first be examined to evaluate the model's explanatory power. The R Square (R^2) value indicates how well the independent (exogenous) variables can explain the variation in the dependent (endogenous) variable. In the context of this study, R^2 values reveal the extent to which liquidity, solvency, and working capital turnover account for changes in profitability. A higher R^2 value indicates a stronger predictive accuracy of the model, while a lower R^2 suggests limited explanatory power. The R Square results for the dependent variable, profitability (measured by Return on Assets), are shown in Table 7 below.

Table 7 R Square Results

	R Square	R Square Adjusted
PROFIT	0.395	0.378
WCT	0.098	0.081

Source: Proceed Data, 2025

The R Square results presented in Table 7 show that the profitability variable (PROFIT), represented by Return on Assets (ROA), has an R^2 value of 0.395 and an adjusted R^2 of 0.378. This indicates that 39.5% of the variation in profitability among manufacturing companies listed on the Indonesia Stock Exchange during the 2021–2024 period can be explained collectively by the independent variables: liquidity, solvency, and working capital turnover. The adjusted R^2, which accounts for the number of predictors in the model, remains relatively close at 37.8%, suggesting that the model does not suffer from significant overfitting and maintains acceptable predictive validity.

In contrast, the working capital turnover (WCT) variable, when treated as a dependent construct in another model specification or sub-model, has an R^2 value of only 0.098 and an adjusted R^2 of 0.081. This low value indicates that the model explains only 9.8% of the variance in working capital turnover, implying a weak predictive capacity by the explanatory variables for this construct. These findings highlight that while the model is moderately effective in predicting profitability, it is less successful in explaining fluctuations in working capital turnover, suggesting the potential influence of other unobserved factors or variables not included in the current model.

Analysis Path Results

Before evaluating the hypothesis testing results, it is essential to analyze the path coefficients within the structural model to determine the strength and direction of the relationships between latent variables. Path analysis in Partial Least Squares

Structural Equation Modeling (PLS-SEM) provides insight into how exogenous variables such as liquidity, solvency, and working capital turnover directly affect the endogenous variable, namely profitability. Each path coefficient represents the magnitude of influence one variable exerts on another, while the accompanying t-statistics and p-values determine the statistical significance of these relationships. These values are derived using bootstrapping procedures, which enhance the robustness of the findings. The detailed results of the path coefficient analysis are shown in Table 8.

Table 8 Path Coefficient Analysis Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
LIQUID -> PROFIT	0.188	0.183	0.060	3.131	0.002
SOLVENCY -> PROFIT	0.076	0.056	0.208	0.366	0.715
WCT -> PROFIT	-0.658	-0.636	0.099	6.665	0.000
LIQUID -> WCT	-0.286	-0.285	0.074	3.848	0.000
SOLVENCY -> WCT	-0.418	-0.395	0.177	2.360	0.019
LIQUID -> WCT -> PROFIT	0.188	0.183	0.060	3.131	0.002
SOLVENCY -> WCT -> PROFIT	0.275	0.263	0.137	2.005	0.045

Source: Proceed Data, 2025

The path analysis results presented in Table 8 offer valuable insights into how liquidity, solvency, and working capital turnover (WCT) influence profitability both directly and indirectly through mediation effects. Each path coefficient is analyzed using its t-statistic and p-value to assess the significance of the relationships. A path is considered statistically significant if the t-value exceeds 1.96 and the p-value is less than 0.05, which indicates that the relationship is not due to random chance and the hypothesis can be accepted.

The first hypothesis (H1), which posits that liquidity has a significant effect on profitability, is accepted. The path coefficient from liquidity to profitability is 0.188 with a t-statistic of 3.131 and a p-value of 0.002. This suggests that companies with higher liquidity tend to experience increased profitability, likely due to better cash flow management and the ability to meet short-term obligations without sacrificing operational efficiency.

The second hypothesis (H2), which examines whether solvency has a significant impact on profitability, is rejected. The path coefficient is 0.076 with a t-statistic of 0.366 and a p-value of 0.715, indicating that the relationship is statistically insignificant. This implies that, within the observed sample, solvency or the company's long-term ability to meet financial obligations, does not directly affect profitability in a meaningful way.

The third hypothesis (H3) tests the effect of working capital turnover (WCT) on profitability. The result shows a negative path coefficient of -0.658 with a high t-statistic of 6.665 and a p-value of 0.000, which is statistically significant. Therefore, H3 is accepted, and it can be concluded that higher WCT is associated with lower profitability. This inverse relationship may suggest that excessively rapid turnover of working capital could reflect operational inefficiencies or excessive short-term financing.

The fourth hypothesis (H4), which evaluates the effect of liquidity on WCT, is also accepted. The path coefficient is -0.286 with a t-statistic of 3.848 and a p-value of 0.000, indicating a significant negative relationship. This finding implies that as liquidity increases, WCT tends to decrease, possibly because firms with more liquid assets may not need to aggressively cycle working capital.

For the fifth hypothesis (H5), which assesses the effect of solvency on WCT, the path coefficient is -0.418 with a t-statistic of 2.360 and a p-value of 0.019, which is significant. Thus, H5 is accepted, suggesting that better solvency corresponds to lower WCT. This could imply that more solvent firms manage their working capital more conservatively, possibly due to more stable long-term financial strategies.

The sixth hypothesis (H6) explores whether WCT mediates the relationship between liquidity and profitability. The mediation path coefficient is 0.188 with a t-statistic of 3.131 and a p-value of 0.002, which confirms significance. Therefore, H6 is accepted, and it can be inferred that WCT partially mediates the relationship between liquidity and profitability, highlighting the operational channel through which liquidity influences firm performance.

Finally, the seventh hypothesis (H7) investigates the mediating effect of WCT on the relationship between solvency and profitability. With a path coefficient of 0.275, a t-statistic of 2.005, and a p-value of 0.045, the relationship is statistically significant. Hence, H7 is accepted, indicating that solvency impacts profitability indirectly through its influence on WCT. This emphasizes that while solvency may not directly influence profitability, its effect is realized through efficient working capital management.

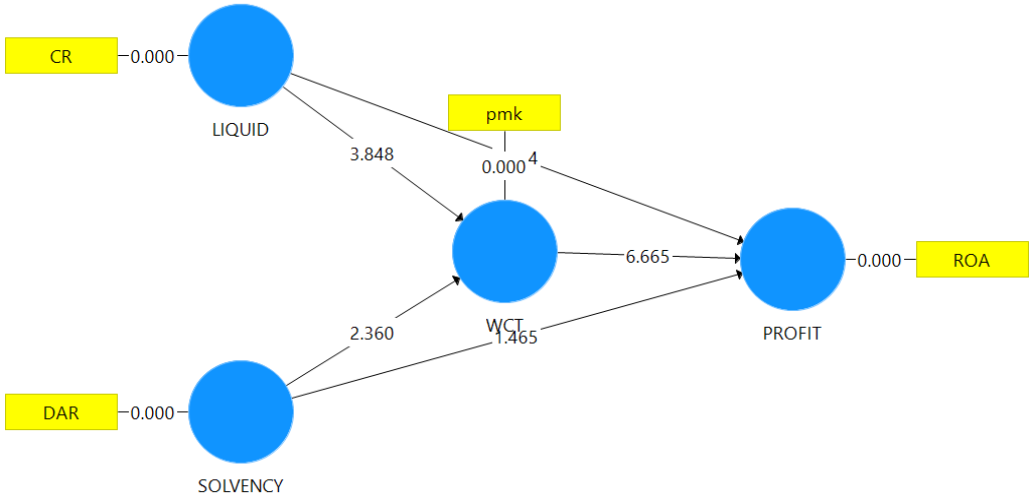

Fig. 1 Path Analysis

DISCUSSION

H1: Liquidity → Profitability

The analysis confirms that liquidity has a significant positive effect on profitability (β = 0.188, t = 3.131, p = 0.002), leading to the acceptance of Hypothesis 1 (H1). This finding supports the notion that firms with high liquidity are better equipped to manage short-term obligations, seize investment opportunities, and avoid costly borrowing, which in turn boosts profitability. Previous studies have also emphasized that adequate liquidity enhances operational resilience and supports continuous production and service delivery ((Reschiwati et al., 2020); (Adelopo et al., 2022)). Therefore, maintaining optimal liquidity levels is crucial for financial performance.

H2: Solvency → Profitability

Contrary to expectations, the path analysis indicates that solvency does not significantly impact profitability (β = 0.076, t = 0.366, p = 0.715), resulting in the rejection of Hypothesis 2 (H2). Although solvency reflects a firm's ability to meet long-term liabilities, it may not directly influence short-term profitability outcomes. Firms with high solvency might allocate more funds toward long-term investments or debt servicing, which do not immediately improve profit margins (Yin & Yang, 2022). Thus, the relationship between solvency and profitability may be indirect or lagged over time.

H3: Working Capital Turnover → Profitability

The data support Hypothesis 3 (H3), revealing a significant negative effect of working capital turnover on profitability (β = -0.658, t = 6.665, p = 0.000). This suggests that excessive turnover, although typically viewed as efficient, might harm profitability if firms over-optimize operations by minimizing inventories or shortening credit terms. Such practices may compromise service quality or strain supplier relationships (Alabdullah et al., 2021). Therefore, firms must balance efficiency with operational stability to avoid profitability loss.

H4: Liquidity → WCT

Hypothesis 4 (H4) is accepted, as liquidity has a significant negative relationship with working capital turnover (β = -0.286, t = 3.848, p = 0.000). This indicates that liquid firms are less pressured to aggressively turn over working capital, likely due to their ability to finance operations internally. These firms may extend more lenient payment terms or hold larger inventories, reducing the turnover rate (Markonah et al., 2020). The negative coefficient highlights the trade-off between liquidity and operational agility.

H5: Solvency → WCT

The results also support Hypothesis 5 (H5), showing that solvency negatively and significantly affects WCT (β = -0.418, t = 2.360, p = 0.019). Solvent firms are less dependent on rapidly circulating their working capital, possibly due to better access to long-term financing or more conservative financial strategies (Gharaibeh & Khaled, 2020). They may prioritize long-term sustainability over short-term operational turnover, reflecting a cautious management style associated with financially stable firms.

H6: Liquidity → WCT → Profitability (Mediated Path)

The indirect path from liquidity to profitability via WCT is statistically significant (β = 0.188, t = 3.131, p = 0.002), thus confirming Hypothesis 6 (H6). This result indicates that part of liquidity's influence on profitability operates through working capital turnover. High liquidity enables firms to strategically manage WCT, which then impacts profitability. This aligns with research suggesting that liquidity enhances firms' flexibility in optimizing operations and managing current assets more effectively (Jihadi et al., 2021).

H7: Solvency → WCT → Profitability (Mediated Path)

Hypothesis 7 (H7) is also accepted, supported by a significant mediation effect (β = 0.275, t = 2.005, p = 0.045). Although solvency does not directly affect profitability, it exerts an indirect effect through WCT. This means that firms with strong solvency levels influence profitability by modifying how they manage their working capital. This pathway is consistent with the findings of Yahaya, (2025), who argue that working capital efficiency plays a vital role in translating long-term financial stability into short-term profitability.

CONCLUSION

This study examined the effect of liquidity, solvency, and working capital turnover on profitability in manufacturing companies within the consumer goods industry listed on the Indonesia Stock Exchange (IDX) for the 2019–2022 period. The research applied Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze data from 108 companies selected using purposive sampling. The findings confirm that liquidity and working capital turnover significantly influence profitability, while solvency does not have a direct effect. Furthermore, working capital turnover plays a mediating role in the relationship between liquidity and solvency toward profitability.

These results highlight the importance of efficient working capital management and adequate liquidity levels for improving firm performance in this sector. Companies that manage their short-term assets and liabilities efficiently are better positioned to enhance profitability, as indicated by the strong negative impact of working capital turnover on profitability and its significant mediation role. These insights provide managerial implications for financial decision-making in balancing liquidity and solvency strategies while optimizing operational efficiency.

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