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Assessing Liquidity: The Role of Cash Flow, Receivables and Inventory Turnover

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Abstract

This study aims to analyze the effect of operating cash flow, accounts receivable turnover, and inventory turnover on company liquidity in retail sub-sector companies listed on the Indonesia Stock Exchange (IDX) during the period 2020–2023. Liquidity is measured using the Current Ratio (CR), operating cash flow is measured using the Operating Cash Flow Ratio (OCF), accounts receivable turnover is measured using the Accounts Receivable Turnover Ratio (ART), and inventory turnover is measured using the Inventory Turnover Ratio (ITR). The data used in this study were obtained from the financial reports of 14 retail companies selected using a purposive sampling technique, resulting in a total of 56 observations over four years. Data analysis was conducted using SPSS software with multiple linear regression analysis. The results show that operating cash flow (OCF) has a positive and significant effect on company liquidity. However, accounts receivable turnover (ART) and inventory turnover (ITR) do not have a significant effect on liquidity. Simultaneously, the three independent variables do not significantly affect company liquidity. The coefficient of determination (R^2) value is 0.192, or 19.2%.

Keywords: Liquidity, Cash flow, Accounts Receivable, Inventory, Retail

Introduction

The retail industry in Indonesia has undergone rapid transformation, driven by shifting consumer behavior, digitalization, and macroeconomic disruptions such as the COVID-19 pandemic. As demand patterns evolve, retail companies are compelled to adapt swiftly to maintain operational stability and financial health. Liquidity, defined as a company's ability to meet short-term obligations using current assets (Weygandt et al., 2015), becomes increasingly critical in such a dynamic environment. Retail companies rely heavily on consistent cash inflows and efficient inventory turnover to sustain operations. The pandemic severely disrupted physical retail activity, leading to plummeting revenues and increased liquidity pressures due to persistent fixed costs. According to Research and Markets (2022), these disruptions intensified financial vulnerabilities across the sector, underscoring the need for strategic liquidity management.

Concurrently, the shift to e-commerce and the emergence of direct-to-consumer (D2C) models are displacing traditional retail structures. Major Indonesian manufacturers, such as Unilever and Indofood, are bypassing intermediaries and selling directly to consumers through digital platforms (World Economic Forum, 2022; CoreDNA, 2024). This paradigm shift places additional strain on traditional retailers, who must now reallocate capital toward digital infrastructure, payment systems, and cybersecurity further impacting liquidity. These structural changes are evident in the performance of companies such as PT Matahari Department Store Tbk (LPPF), which has downsized from 169 outlets in 2019 to 155 in early 2024, coupled with a workforce reduction of nearly 5,000 employees. Despite recovering sales post-pandemic, revenue remains 36% below pre-pandemic levels, indicating that liquidity remains constrained (CNBC Indonesia, 2024).

According to Kompasiana (2023), the number of Indonesian e-commerce users grew from 158.65 million in 2021 to 196.47 million in 2023, and this number is projected to continue rising. Moreover, the adoption of receivables automation technologies has emerged as a strategy to enhance liquidity through improved cash flow efficiency. Faster receivables turnover stabilizes operational cash flow, which is essential amid volatile market conditions. Nevertheless, these strategies require upfront investments, adding short-term strain on liquidity. In this context, liquidity becomes a crucial measure of financial resilience. Liquidity reflects

a company's ability to meet its short-term obligations and sustain operations during turbulent conditions. Retail companies with sound liquidity management can better withstand sales volatility, invest in digital infrastructure, and adapt to rapidly shifting consumer trends. According to Weygandt et al. (2015), liquidity is commonly measured using the Current Ratio, which compares current assets to current liabilities.

Operational efficiency, particularly in managing cash flow, accounts receivable, and inventory, plays a vital role in supporting liquidity. However, previous research has shown inconsistent results regarding the influence of these factors on company liquidity. For example, studies by Sunardi et al. (2021) and Hidayati et al. (2019) found that operating cash flow has a significant impact on liquidity, while Dewi et al. (2020) and Wardiningsih (2021) reported no such effect. Similar discrepancies are found in the literature regarding receivables and inventory turnover, highlighting a need for further investigation, particularly within the digitalizing Indonesian retail context. The inconsistencies across studies such as those by Sunardi et al. (2021) showing a positive effect of receivables turnover, versus Siregar (2016) showing no significant effect demonstrate a clear research gap. Differences in sample periods, economic context, and firm characteristics contribute to these varied outcomes.

To address this gap, this study investigates the effect of operating cash flow (X1), receivables turnover (X2), and inventory turnover (X3) on the liquidity (Y) of retail companies listed on the Indonesia Stock Exchange (IDX) from 2020 to 2023. Liquidity will be measured using the current ratio (CR), a commonly used proxy in financial analysis. This research aims to provide empirical evidence on how retail firms manage liquidity amidst digital disruption and economic volatility. The findings are expected to inform retail managers, investors, and stakeholders in formulating adaptive financial strategies to ensure continuity and competitiveness in Indonesia's evolving retail landscape.

Literature Review

Operating cash flow refers to the net cash generated from a company's core operational activities. According to Weygandt et al. (2015), operating cash flow is a critical indicator of a company's ability to fund its operations, repay short-term liabilities, and sustain internal financing without relying on external capital. Subramanyam (2009) adds that strong operating cash flow reflects the efficiency of the company in converting revenue into real liquidity. The operating cash flow ratio defined as operating cash flow divided by current liabilities is used to measure a company's short-term liquidity derived from operational performance. A higher ratio indicates a stronger capacity to meet obligations using internally generated funds (Gitman & Zutter, 2015). Companies with robust operating cash flows are typically perceived as financially stable, capable of adapting to short-term economic fluctuations, and less exposed to liquidity shocks.

Empirical research by Sunardi et al. (2021), Hidayati et al. (2019), and Purnamaratri (2016) found that operating cash flow has a significant positive effect on liquidity. Conversely, other studies such as Dewi et al. (2020) and Wardiningsih (2021) observed no significant relationship. These inconsistencies highlight the need for further investigation, particularly in the retail sector where working capital is highly sensitive to consumer behavior and economic disruption.

H1: Operating cash flow has a significant effect on company liquidity.

Receivables turnover is a financial metric that assesses how efficiently a company collects payments from credit sales. A higher turnover ratio implies faster recovery of receivables, thereby enhancing cash availability and liquidity (Penman, 2012). Gitman and Zutter (2015) emphasize that high turnover reduces the risk of bad debts and strengthens operational cash flow, thus supporting liquidity management. The ratio is calculated by dividing net sales by average accounts receivable. Efficient receivables turnover allows companies to maintain a steady cash inflow, which is critical for meeting short-term obligations and avoiding cash shortfalls (Brigham & Houston, 2004).

Several studies affirm the importance of receivables turnover in liquidity. For instance, Indarti and Oetomo (2019), Wijaya (2018), and Lintas (2021) found a positive and significant effect of receivables turnover

on liquidity. In contrast, findings by Trisnayanti et al. (2020), Gaol (2015), and Siregar (2016) indicated no significant relationship. This discrepancy suggests that the impact of receivables turnover may vary depending on industry context, economic conditions, and collection policies.
H2: Accounts receivable turnover has a positive and significant effect on company liquidity.

Inventory turnover measures the rate at which a company sells and replenishes its stock. A higher inventory turnover ratio suggests efficient inventory management, minimizing holding costs and improving liquidity (Gitman & Zutter, 2015). On the other hand, low turnover indicates overstocking or weak sales, which can tie up capital and impair liquidity (Penman, 2012). The inventory turnover ratio is calculated by dividing cost of goods sold by average inventory. According to Bernstein and Wild (2024), a high turnover supports operational efficiency and cash conversion, which is vital for short-term financial stability, especially in inventory-intensive sectors such as retail.

Research findings are mixed. Sunardi et al. (2021), Trisnayanti et al. (2020), and Lintas (2021) report a significant positive relationship between inventory turnover and liquidity. However, Wijaya (2018) and Gaol (2015) found the opposite indicating a significant negative effect where excessive turnover may signal understocking, lost sales opportunities, or aggressive inventory policies that destabilize operations.
H3: Inventory turnover has a positive and significant effect on company liquidity.

Methods

This study employs a quantitative approach. The object of this research focuses on the analysis of three independent variables: Operating Cash Flow, Accounts Receivable Turnover, and Inventory Turnover, as well as one dependent variable, namely Company Liquidity, measured using the Current Ratio (CR). The subject of this research is retail sub-sector companies listed on the Indonesia Stock Exchange (IDX) during the period 2020–2023. The data are sourced through the official IDX website and each company's official website, including annual financial reports published consistently throughout the observation period.

The sampling technique used is non-probability sampling with a purposive sampling approach. In non-probability sampling, not all members of the population have an equal chance of being selected. The criteria used for selecting the research sample are as follows: (1) Retail sub-sector companies listed on the IDX during the 2020–2023 period, (2) Companies that published complete financial reports for four consecutive years within the research period, and (3) Companies that disclosed all data relevant to operating cash flow, accounts receivable turnover, inventory turnover, and current assets and liabilities. Based on these criteria, a total of 14 companies were selected, resulting in 56 total observations over the four-year period.
This research establishes three independent variables (X), as follows:

a. Operating Cash Flow

OCF Rasio = Operating Cash Flow / Current Liabilities

b. Accounts Receivable Turnover

ART Ratio = Net Sales / Average Accounts Receivable

c. Inventory Turnover

ITR Ratio = Cost of Goods Sold / Average Inventory

This Research use current ratio as the dependent (Y) variable:

a. Company Liquidity (Current Ratio)

Current Ratio = Current Assets / Current Liabilities

This study's testing method makes use of statistical analysis, which is handled via IBM SPSS. Descriptive statistics were used by the researchers to evaluate the data in this study. The normality, heteroscedasticity, autocorrelation, and multicollinearity tests were among the traditional assumption tests used.
1. Descriptive Statistics

Sugiyono (2013) states that descriptive statistics are statistics that are used to examine data by characterizing the obtained data in its original form without attempting to draw broad inferences or generalizations.

2. Classical Assumption Tests

Ghozali (2018) states that classical assumption testing serves as an initial step before performing multiple regression analysis and regression analysis moderation, to ensure that the regression coefficients are consistent, unbiased, and accurately estimated. There are four tests, namely:

a. Normality Test
   Checks if residuals (errors) are normally distributed, a key assumption in linear regression for valid hypothesis testing (Kolmogorov-Smirnov test).
b. Heteroscedasticity Test
   Examines whether the variance of residuals is constant across observations. If not (i.e., heteroscedastic), it can lead to inefficient estimates and invalid standard errors (Glejser test).
c. Autocorrelation Test
   Detects correlation between residuals across time or sequence and affects inference accuracy (Durbin-Watson test).
d. Multicollinearity Test
   Identifies high intercorrelations among independent variables. Severe multicollinearity inflates standard errors and destabilizes coefficients (Variance Inflation Factor/VIF).

This study IBM SPSS Statistics 25 software to analyze Multiple Linear Regression Analysis, Partial Test (T-Test), Simultaneous Test (F-Test), Coefficient of Determination (R^2).

1. Multiple Linear Regression Analysis
   Used to measure the simultaneous effect of two or more independent variables on a single dependent variable. It helps identify which factors significantly influence the outcome and quantifies their impact.
2. Partial Test (T-Test)
   Tests the individual significance of each independent variable. It shows whether each variable affects the dependent variable while controlling for others.
3. Simultaneous Test (F-Test)
   Assesses the joint significance of all independent variables. It indicates whether the model, as a whole, explains a meaningful amount of variance in the dependent variable.
4. Coefficient of Determination (R^2)
   Reflects how much of the variation in the dependent variable is explained by the model. A higher R^2 value indicates better explanatory power.

Results and Discussion

Based on the established criteria, 14 sample companies were selected, resulting in a total of 56 observations. Table 4.1 presents the descriptive statistics for the variables used to examine the influence of operating cash flow, accounts receivable turnover, and inventory turnover on company liquidity.

1. Descriptive Statistical Analysis

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
OCF Ratio (X1)	56	-1.600141	1.821002	.26774687	.551160473
ART Ratio (X2)	56	3.173818	166.673491	54.71334254	38.195447685
IT Ratio (X3)	56	1.259391	35.203528	7.66003002	7.410947042
Current Ratio (Y)	56	-2.06	1.14	-.0187	.75417
Valid N (listwise)	56				

Source: IBM SPSS Statistics 25

The table above presents the results of descriptive statistical analysis of four variables, namely OCF Ratio (X1), ART Ratio (X2), IT Ratio (X3), and Current Ratio (Y), based on 56 observation data (N = 56)

2. Classical Assumption Tests

a. Normality Test

One-Sample Kolmogorov-Smirnov Test

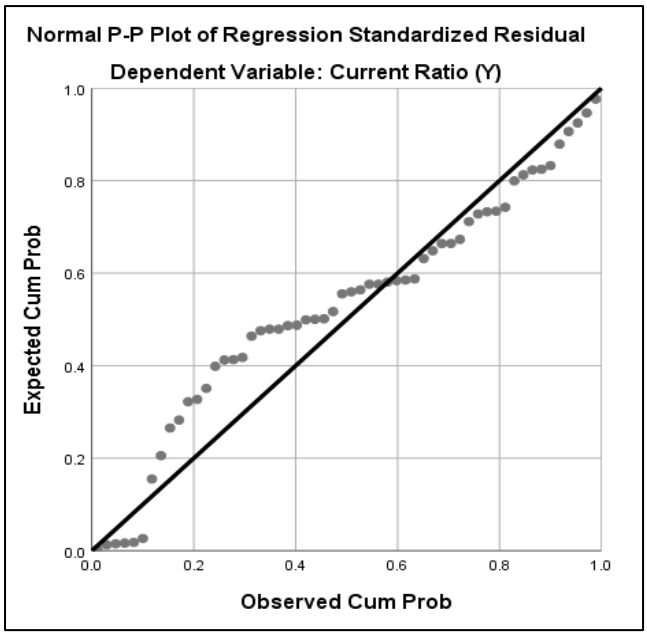
		Unstandardized Residual
N		56
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.72214599
Most Extreme Differences	Absolute	.164
	Positive	.084
	Negative	-.164
Test Statistic		.164
Asymp. Sig. (2-tailed)		.001[c]
Exact Sig. (2-tailed)		.089
Point Probability		.000

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

Source: IBM SPSS Statistics 25

The Kolmogorov-Smirnov test yielded a statistical value of 0.164 with an exact significance (2-tailed) value of 0.089. Given that the significance value is higher than the significance level of 0.05, it can be concluded that the residual data is regularly distributed.

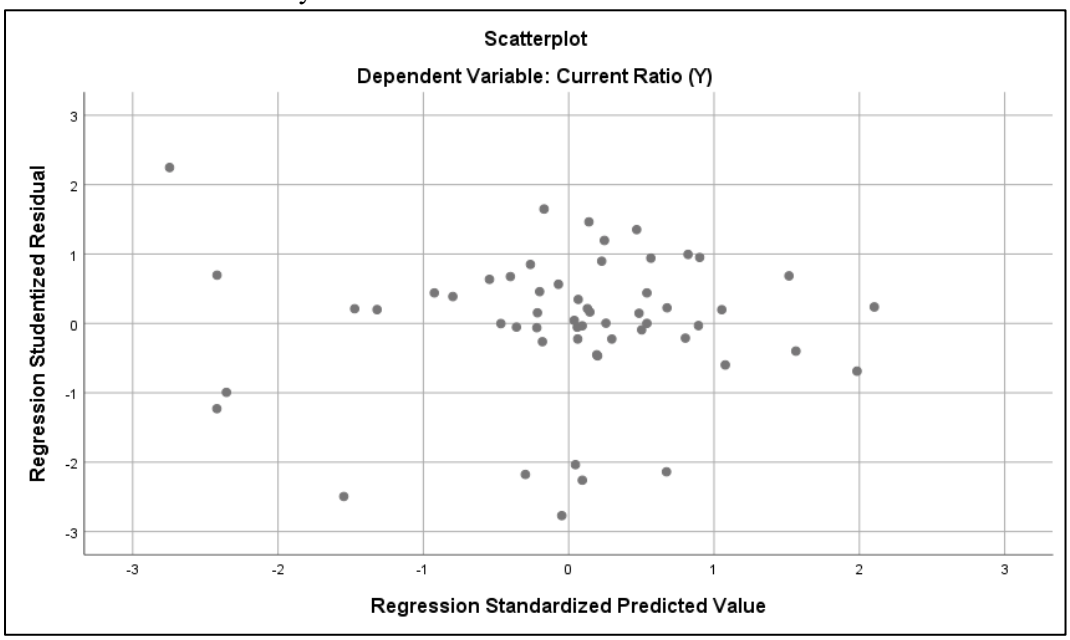
The Kolmogorov-Smirnov test indicates that the data is normally distributed. To further validate this result, a P-P plot was utilized to visually assess the normality of the data distribution. The plot is presented below to support this conclusion.



Source: IBM SPSS Statistics 25

The distribution pattern of points around the diagonal line suggests that the regression model's residuals are normal. Although there are slight deviations in some parts, overall there is no systematic pattern that deviates significantly from the diagonal line.

b. Heteroscedasticity Test



Source: IBM SPSS Statistics 25

It can be seen that the data points are randomly scattered around the horizontal axis (zero residual value) without forming a certain clear pattern, such as a fan-like pattern or curved line. This random and even distribution of residuals indicates that the residual variance is constant across the entire range of predicted values, or in other words, there are no symptoms of heteroscedasticity.

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.491	.132		3.722	.000
	OCF Ratio (X1)	4.047E-5	.136	.000	.000	1.000
	ART Ratio (X2)	-.002	.002	-.145	-.963	.340
	IT Ratio (X3)	.015	.011	.219	1.429	.159

a. Dependent Variable: Abs_RES

Source: IBM SPSS Statistics 25

The Glejser test determines whether heteroscedasticity is present by analyzing whether the independent variable significantly affects the absolute value of the residual Heteroscedasticity symptoms are absent. Heteroscedasticity is absent from this regression model, and as all variable significance values are higher than 0.05, The conventional assumption regarding the stability of the residual variance (homoscedasticity) has been met.

c. Autocorrelation Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.438[a]	.192	.151	.74269	2.058

a. Predictors: (Constant), IT Ratio (X3), OCF Ratio (X1), ART Ratio (X2)

b. Dependent Variable: Current Ratio (Y)

Source: IBM SPSS Statistics 25

A score around 2 indicates that there is no autocorrelation. The Durbin-Watson value is a number between 0 and 4. Given that the Durbin-Watson value of 2.058 is within the neutral range, which is 1.5 to 2.5, it can be said that the regression model in use does not contain autocorrelation

d. Multicollinearity Test

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	.033	.189		.174	.863		
	OCF Ratio (X1)	.110	.195	.080	.561	.577	.864	1.158
	ART Ratio (X2)	.002	.003	.117	.794	.431	.808	1.238
	IT Ratio (X3)	-.027	.015	-.266	-1.774	.082	.782	1.280

a. Dependent Variable: Current Ratio (Y)

Source: IBM SPSS Statistics 25

The Tolerance value for the independent variables OCF Ratio (X1), ART Ratio (X2), and IT Ratio (X3) is 0.864, 0.808, and 0.782, respectively. Based on these criteria, all independent variables in this model have Tolerance and VIF values that are within normal limits.

3. Multiple Linear Regression Analysis

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.033	.189		.174	.863
	OCF Ratio (X1)	.110	.195	.080	.561	.013
	ART Ratio (X2)	.002	.003	.117	.794	.431
	IT Ratio (X3)	-.027	.015	-.266	-1.774	.082

a. Dependent Variable: Current Ratio (Y)

Source: IBM SPSS Statistics 25

Based on the output table above, it can be seen that the form of multiple linear regression equations is as follows:

$$Y=0.033+0.0110(X_1)+0.002(X_2)-0.027(X_3)+e$$

Where:
Y = Current Ratio
X_1 = OCF Ratio
X_2 = ART Ratio
X_3 = IT Ratio
e = error

The relationship between these variables can be described as follows:

a. Constant (a)
The constant value (a) of 0.033 indicates that the value of the dependent variable, the current ratio, is predicted to be 0.033 if all independent variables (OCF, ART, and IT ratios) are zero. When the predictor variables have no effect, this constant serves as the model's initial cutoff point.

b. OCF Ratio (X_1)
The OCF Ratio yielded a 0.110 positive regression coefficient. If all other factors remain constant, a rise of 0.110 units in the current ratio will occur for every unit increase in the OCF ratio.

c. ART Ratio (X_2)
The ART Rasio have a very modest positive correlation of 0.002. Accordingly, if all other factors stay the same, a one-unit rise in the ART Ratio will result in a 0.002 unit increase in the current ratio.

d. IT Ratio (X_3)
There is a negative correlation between the IT Ratio and the Current Ratio, as evidenced by the negative regression coefficient of -0.027. Therefore, if all other factors remain constant, a one-unit rise in the IT Ratio will result in a 0.027-unit decrease in the current ratio.

4. Partial Test (T-Test)

a. OCF Ratio (X_1)
For this variable, H_0 is rejected and H_1 is approved since the significance value (Sig.) of 0.013 is less than $\alpha = 0.05$. This indicates that the Current Ratio is significantly impacted by the OCF Ratio to some extent.

b. ART Ratio (X_2)
X2 variable has a significance value of 0.431. Therefore, it can be concluded that the ART Ratio do not have a significant effect on the Current Ratio partially.

c. IT Ratio (X_3)
IT Ratio (X3) has a significance value of 0.082, which are greater than 0.05. Therefore, it can be concluded that IT Ratio do not have a significant effect on the Current Ratio partially.

5. Simultaneous Test (F-Test)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.601	3	.867	1.572	.207[b]
	Residuals	28.682	52	.552		
	Total	31.283	55			

a. Dependent Variable: Current Ratio (Y)

b. Predictors: (Constant), IT Ratio (X3), OCF Ratio (X1), ART Ratio (X2)

Source: IBM SPSS Statistics 25

The ANOVA or F test results displayed in the table yield a significant value (Sig.) of 0.207, which is greater than the significance level $\alpha = 0.05$. This suggests that the three independent variables the OCF Ratio (X1), ART Ratio (X2), and IT Ratio (X3) do not substantially affect the dependent variable, Current Ratio (Y), simultaneously.

6. Coefficient of Determination (R^2)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.438[a]	.192	.151	.74269

a. Predictors: (Constant), IT Ratio (X3), OCF Ratio (X1), ART Ratio (X2)

b. Dependent Variable: Current Ratio (Y)

Source: IBM SPSS Statistics 25

The coefficient of determination (R Square) for this multiple linear regression model is 0.192. This indicates that changes in the three independent variables included in the model the OCF Ratio (X1), ART Ratio (X2), and IT Ratio (X3) can account for roughly 19.2% of the variation that happens in the dependent variable, the Current Ratio (Y).

Conclusion

This research aimed to examine the influence of operating cash flow, accounts receivable turnover, and inventory turnover on company liquidity in retail companies listed on the Indonesia Stock Exchange during the period 2020–2023. The results of the analysis show that operating cash flow has a significant positive effect on company liquidity. This finding suggests that effective cash flow management from core operational activities

enhances a company's ability to meet short-term obligations, indicating the importance of internal cash generation in sustaining liquidity levels within the retail sector.

In contrast, accounts receivable turnover and inventory turnover were found to have no significant effect on liquidity. This may be due to the variability in credit policies, consumer purchasing behavior, and inventory strategies across different retail companies. In some cases, high turnover rates do not directly translate to immediate cash inflows, especially when credit terms are extended or inventory management is influenced by external market shifts.

Overall, the study concludes that among the three variables tested, only operating cash flow plays a decisive role in influencing company liquidity. Retail companies are advised to prioritize efficient cash flow management, particularly during periods of market disruption and digital transformation, to ensure operational continuity and financial resilience.

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