

Unlocking Financial Performance : The Role of Intellectual Capital and Leverage

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ABSTRACT

This study aims to examine the impact of intellectual capital and leverage on Return on Assets (ROA) for non-cyclical consumer sector companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period. The study is grounded in Resource-Based Theory (RBT), which emphasizes the crucial role of both tangible and intangible resources in determining corporate performance. A quantitative research method was employed, utilizing secondary data derived from financial statements. Analysis was conducted using descriptive statistics, classical assumption tests, correlation analysis, and multiple linear regression. The results indicate that intellectual capital has a significant negative effect on ROA; this implies that higher investment in intangible assets tends to lead to a decline in ROA if implementation is suboptimal. Meanwhile, leverage has a significant positive effect on ROA, although its contribution is relatively small compared to that of intellectual capital. Collectively, intellectual capital and leverage significantly influence ROA, with a coefficient of determination (R^2) of 61.30%, indicating that nearly all variation in ROA can be explained by these two independent variables. These findings underscore the importance of effectively managing intellectual capital and appropriately utilizing leverage to support the achievement of sustainable financial performance.

Keywords : Intellectual Capital; Leverage; Return on Assets; Resource Based Theory.

INTRODUCTION

As times change, business competition is becoming increasingly intense, manifesting in diverse forms across various sectors. Companies can gain an edge over their competitors through the development of products and execution systems [1]. Consequently, companies are required to continuously enhance their competitiveness so that they can rapidly transform into stronger entities capable of responding to market needs [2]. Beyond the competitive dynamics at the firm level, broader macroeconomic conditions also play an important role in shaping the business environment, particularly through economic growth as reflected in GDP growth.



Pictrure 1. Pertumbuhan PDB Sektor di Indonesia Tahun 2020-2024

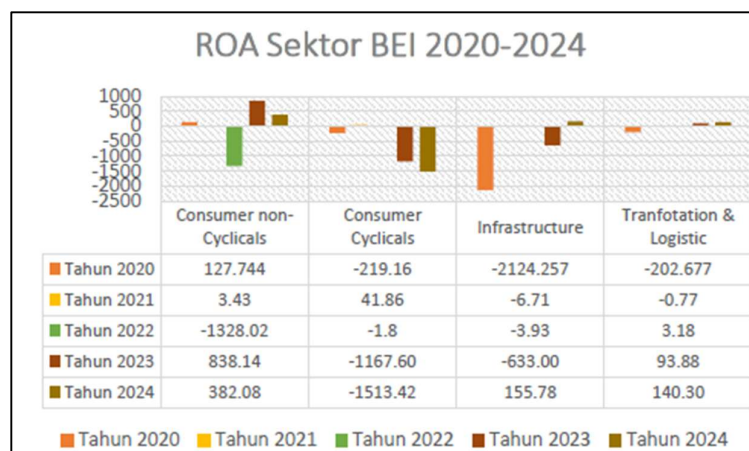
Source : Badan Pusat Statistik (2025)

The GDP diagram above illustrates that the non-cyclical consumer sector makes a significant contribution to GDP, serving as a key driver of economic growth due to the stable demand for its products—even amidst economic fluctuations [3]. Companies in the non-cyclical consumer sector are engaged in the production or distribution of essential goods and services [4]. As an industry sector that aligns with population growth and rising incomes, the demand for non-cyclical consumer goods increases alongside income levels; consequently, higher demand intensifies market competition among companies in this sector [5].

A company is any type of business entity that conducts business activities on a consistent and continuous basis. Companies are established to generate profit; the extent to which a company has achieved its objectives can be assessed through its performance results [6]. Return on Assets (ROA) is a metric that indicates an organization's effectiveness and efficiency in achieving its goals. ROA can serve as a measure of a company's ability to generate profit from its business operations [7]. A higher ROA indicates greater effectiveness in delivering returns to investors. Conversely, a decline in ROA signals a drop in performance and suggests the company may be facing losses (Seger Santoso & Riza, 2024). ROA reflects how effectively a company converts its assets into profit [8].

The fluctuating ROA in the non-cyclical consumer sector indicates instability in business performance, whereas the cyclical consumer sector is highly sensitive to economic conditions and prone to prolonged downturns, thereby increasing investor risk. ROA was selected as the metric for the non-cyclical consumer sector because this sector demands efficient asset management to navigate relatively low profit margins. ROA offers a comprehensive perspective, as it measures a company's ability to generate profit independently of its financing structure [9].

Regarding the non-cyclical consumer sector during the 2020–2024 period, the sector exhibited sharp fluctuations: the value stood at 127,744 in 2020, followed by a decline to 3.43 in 2021. A very significant drop occurred in 2022, bringing the value to -1,328.02; this was followed by a recovery to 838.14 in 2023 and a subsequent decline to 382.08 in 2024. ROA remained positive throughout the observation period. Consequently, the decline in ROA warrants analysis to identify improvement strategies capable of boosting the sector's profitability [10].



Picture 2. ROA sektor BEI Tahun 2020-2024

Source : Bursa Efek Indonesia (2025)

The non-cyclical consumer sector was selected as the primary focus of this study, which aims to identify factors for formulating effective strategies to enhance Return on Assets (ROA), particularly in the face of sector-specific fluctuations. A company's success is not determined solely by its ability to manage profits—a metric measurable through financial ratios. One factor that can influence profit growth is intellectual capital. Intellectual capital is an intangible asset comprising information and knowledge resources that serve to enhance a company's competitiveness and performance [11].

Intellectual capital plays a crucial and strategic role within a company by generating added value, supporting improved corporate performance, and enhancing competitive advantage. It significantly influences the long-term performance that an organization aims to achieve [12]. Intellectual capital can be measured using the Value Added Intellectual Capital (VAIC) method, originally introduced by Pulic in 1998. The VAIC components used to measure intellectual capital consist of Human Capital (HC), Structural Capital (SC), and Employee Capital (EC) [13]. This study examines the development of intellectual capital—measured using VAIC—within the non-cyclical consumer sector listed on the Indonesia Stock Exchange during the 2020–2024 period. In 2020, the sector's VAIC value stood at a healthy 3.03, before declining to 2.77 in 2021 and 2.71 in 2022. Subsequently, in 2023 and 2024, the sector's VAIC value rebounded, reaching solid figures of 3.13 and 3.21, respectively. The observed phenomena indicate that VAIC values in the consumer non-cyclical sector are at a reasonably good level. Companies can derive significant benefits from intellectual capital, including enhanced profitability. However, sharp fluctuations in ROA suggest that the sector is not optimizing asset utilization and profitability, indicating issues in resource management that hinder corporate performance [14]. This reveals a discrepancy between the relatively stable VAIC trends and the fluctuating—and generally declining—ROA growth, given that VAIC should ideally help drive Return on Assets performance. In efforts to improve Return on Assets (ROA), a company must also consider its operating capital. Insufficient operating capital can hinder operational activities; therefore, the company requires additional external funding

to carry out its operations and achieve its objectives. Securing such additional funding may result in an increase in the company's leverage [15].

According to [16], leverage is used to measure the extent to which a company's assets are financed with debt. Excessive use of debt can endanger a company because it will fall into the extreme debt category, meaning the company will be trapped in high debt levels and find it difficult to escape the debt burden. Companies should balance how much debt they can take on and where they can use it [17]. Leverage can be calculated using various ratios, one of which is the Debt-to-Asset Ratio (DAR). This ratio measures a company's debt position by dividing total debt by total assets. The DAR serves as a crucial tool for management and investors in evaluating a company's capital structure and financial sustainability [18]. It was selected as a leverage indicator due to its relevance to the non-cyclical consumer sector—which prioritizes business stability and financial risk—thereby aiding in the assessment of debt utilization and financial stability [19].

Leverage levels in the non-cyclical consumer sector listed on the Indonesia Stock Exchange showed a generally downward trend over the 2020–2024 period. In 2020, the leverage figure stood at 6.06, rising to 9.06 in 2021—indicating increased reliance on debt. It then dropped significantly to 6.69 in 2022, rose slightly to 6.84 in 2023, and fell again to 5.90 in 2024, reflecting a stable condition. Regarding the relationship between leverage and return on assets in the non-cyclical consumer sector from 2020 to 2024, a decline in the Debt-to-Asset Ratio (DAR) leads to increased profits due to the reduction in debt-financed assets; conversely, an increase in DAR implies a larger proportion of debt-financed assets, causing profits to tend to decline [20]. This situation illustrates the sector's ability to prioritize stability by focusing on debt repayment, effective asset management, and the reduction of interest expenses associated with external financing. Financing, asset utilization, and risk management; consequently, a high Debt-to-Asset Ratio (DAR) serves as an indicator of risks to a company's financial health [21]. This sector exhibits an imbalance between leverage and Return on Assets (ROA), as debt reduction efforts have not succeeded in consistently driving profit growth. Debt repayment can lead to a reduction in a company's current assets and limit the assets available for use; furthermore, when a company finances its assets through debt, the capital structure composition shifts—increasing interest expenses and potentially suppressing net profit [22].

Previous studies have examined the effects of intellectual capital and leverage on financial performance, particularly as measured by Return on Assets (ROA). However, the findings remain inconsistent, indicating that the relationship between intellectual capital, leverage, and ROA requires further investigation. Therefore, reviewing the existing literature is essential to identify the research gap and establish the state of the art of the present study.

Although previous studies have examined the relationship between intellectual capital, leverage, and financial performance, particularly Return on Assets (ROA), their findings remain inconsistent. Some studies report that intellectual capital positively affects ROA, while others find a weak, insignificant, or negative relationship. Similarly, leverage has been found to have varying effects on ROA across different research settings. These inconsistencies indicate that the

relationships between intellectual capital, leverage, and financial performance are not yet conclusive and may vary depending on the characteristics and context of the firms examined.

The novelty of this study lies in examining intellectual capital and leverage simultaneously as determinants of financial performance, as measured by ROA, within the context of Non Cyclical Sector in IDX. By considering these two factors together, this study is expected to provide a more comprehensive understanding of the factors associated with firms' ability to generate returns from their assets. Based on the theoretical arguments and findings of previous studies, this study proposes that intellectual capital has a positive effect on ROA, whereas leverage is hypothesized to have a negative effect on ROA. Accordingly, this study aims to examine the effects of intellectual capital and leverage on financial performance as measured by ROA and to provide empirical evidence regarding these relationships in the context.

METHOD

Secondary data types, sources, and collection techniques were derived from financial statements. Intellectual Capital (IC) was measured using VAIC, leverage using DAR, and profitability using ROA. Data analysis was performed using SPSS. The research method employed in this study is the quantitative method. This is a scientific and systematic research approach in which observations encompass all aspects related to the research object, the phenomena, and existing correlations [26]. The population for this study consists of companies in the consumer non-cyclicals sector listed on the Indonesia Stock Exchange, totaling 85 companies. A sample is a subset of the population's total size and characteristics; the sample drawn from the population must be representative. This study employs purposive sampling, a technique for selecting a sample based on specific criteria [26]. The sampling criteria for this study are as follows: (1) Non-cyclical consumer sector companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period. (2) Non-cyclical consumer sector companies that consistently published annual reports during the 2020–2024 period. (3) Non-cyclical consumer sector companies that recorded a profit during the 2020–2024 period. Based on the criteria established for sample selection using the purposive sampling technique, the sample obtained for this study consists of 27 companies covering the 2020–2024 period.

RESULTS AND DISCUSSION

Classical assumption test

The data have met the classical assumption tests.

Tabel 1. Multiple Linear Regression Analysis

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	3.718	.039		.96469
	<i>Intellectual Capital</i>	-.016	.000	-.990	.106910
	<i>Leverage</i>	.007	.000	.151	.16339

a. Dependent Variable: ROA

The constant is 3.718, meaning that if the intellectual capital and leverage variables are zero ($X_1, X_2 = 0$), the ROA value remains 3.718. The regression coefficient for the intellectual capital variable is -0.016, meaning that if intellectual capital increases by one unit, ROA will decrease by 0.016. The regression coefficient for the leverage variable is 0.007, meaning that if leverage increases by one unit, ROA will increase by 0.007.

Tabel 2. Correlation Coefficient

Correlations				
		Intellectual Capital	Leverage	ROA
Intellectual Capital	Pearson Correlation	1	.027	-.613**
	Sig. (2-tailed)		.860	.000
	N	45	45	45
Leverage	Pearson Correlation	.027	1	.470**
	Sig. (2-tailed)	.860		.001
	N	45	45	45
ROA	Pearson Correlation	-.613**	.470**	1
	Sig. (2-tailed)	.000	.001	
	N	45	45	45

** . Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficient for the intellectual capital variable relative to ROA is -0.613, with a significance value of 0.000 (<0.05). This indicates an inverse relationship between intellectual capital and ROA; specifically, as intellectual capital increases, ROA tends to decrease, and vice versa. The correlation coefficient for the leverage variable relative to ROA is 0.470, with a significance value of 0.001 (>0.05). This indicates a positive relationship between leverage and ROA, though the relationship is not statistically significant. The correlation coefficient between intellectual capital and leverage is 0.027, with a significance value of 0.860 (>0.05), indicating a positive relationship between the two independent variables that is not statistically significant.

Tabel 3. Coefficient of Simultaneous Determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.783 ^a	.613	.595	.90715
a. Predictors: (Constant), Leverage, Intellectual Capital				

The calculation results indicate that intellectual capital and leverage simultaneously account for 61.3089%, while the remaining 38.69% is explained by factors outside the research model or scope of testing.

Tabel 4. t-Test

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	3.718	.039		.96.469
	<i>Intellectual Capital</i>	-.016	.000	-.990	.106.910
	<i>Leverage</i>	.007	.000	.151	16.339
a. Dependent Variable: ROA					

The intellectual capital variable has a calculated t-value of -106.910 with a significance level of $0.000 < 0.05$. This indicates that intellectual capital has a significant negative effect on ROA (partial effect); thus, H_0 is rejected and H_a is accepted. The leverage variable shows a calculated t-value of 16.339 with a significance level of $0.000 < 0.05$. This indicates that leverage has a significant positive effect on ROA (partial effect); thus, H_0 is rejected and H_a is accepted.

Tabel 5. F-Test

ANOVA ^a					
Model		Sum of Squares	df	Mean Square	F
1	Regression	1417.491	2	708.745	5791.717
	Residual	10.279	84	.122	
	Total	1427.770	86		
a. Dependent Variable: ROA					
b. Predictors: (Constant), <i>Leverage</i> , <i>Intellectual Capital</i>					

Based on the table above, simultaneous testing indicates that the significance value (Sig.) for this regression model is 0.000. This value is less than 0.05, meaning that the independent variables—intellectual capital and leverage—have a significant simultaneous effect on the dependent variable, Return on Assets (ROA).

The Effect of Intellectual Capital on Return on Assets (ROA)

The research results indicate that H_1 is accepted, showing that intellectual capital has a significant negative effect on ROA; this is evidenced by a calculated t-value of -106.910 and a significance value of 0.000 (which is less than 0.005). This negative relationship suggests that higher corporate investment in intangible assets (intellectual capital) tends to result in a decline in ROA. This situation may arise because substantial investments in intangible assets are not optimally implemented, rendering the associated costs inefficient in supporting ROA levels. Furthermore, the coefficient of determination (R^2) is 38.435%, indicating that 38.435% of the variation in ROA can be explained by the intellectual capital variable, thereby demonstrating that intellectual capital influences ROA, albeit in a negative direction.

The Effect of Leverage on Return on Assets (ROA)

The results of this study indicate that the leverage variable has a positive and significant partial effect on ROA. This is evidenced by a calculated t-value of 16.339 and a significance value of 0.000 (less than 0.05), leading to the acceptance of H_2 . This implies that the appropriate use of leverage can assist the company in boosting profits by utilizing external funds to expand business capacity and strengthen operational activities, thereby enhancing ROA. However, the coefficient of determination (K_d) for leverage stands at only 22.88%, indicating that while leverage contributes significantly to the variation in ROA, other factors remain more dominant in influencing the company's ROA. The study highlights that customer demand reflects a high level of need for products in the non-cyclical consumer sector. This situation necessitates greater capital—including external funding via debt—on the part of the company. Through the use of leverage, the company can increase production capacity and meet customer demand.

The Influence of Intellectual Capital and Leverage on Return on Assets (ROA)

The results of this study support the acceptance of the hypothesis (H_3) stating that intellectual capital and leverage simultaneously have a significant effect on ROA. This is evidenced by the simultaneous test (F-test) results, which yielded an F-statistic of 5,791.717—exceeding the F-table value of 4.032710—with a significance level of 0.000 (< 0.05). These results indicate that the regression model employed in this study is suitable for explaining the relationships between the variables. The coefficient of determination (R^2) obtained was 0.613089 (or 61.3089%), meaning that the variation in ROA can be explained by the intellectual capital and leverage variables acting jointly, while the remaining 38.69% is attributable to factors outside the scope of this study's model. Thus, it can be concluded that intellectual capital and leverage simultaneously make a dominant contribution to influencing corporate ROA.

CONCLUSION

Based on the analysis and discussion of “The Effect of Intellectual Capital and Leverage on Return on Assets (ROA): An Empirical Study of the Non-Cyclical Consumer Sector (2020–2024),” it can be concluded that intellectual capital has a

significant negative effect on ROA, contributing 38.435% to the ROA of non-cyclical consumer sector companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period. In contrast, leverage has a significant positive effect on ROA, contributing 22.889%. Furthermore, intellectual capital and leverage simultaneously have a significant effect on ROA, with a combined contribution of 61.3089%. These findings indicate that intellectual capital and leverage are significant factors associated with the financial performance of non-cyclical consumer sector companies during the observation period.

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