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Article

The Effect of Intellectual Capital, Sustainability Reporting on Financial Performance in Indonesia

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Abstract: The increasing emphasis on intangible assets and corporate sustainability has shifted the focus of financial performance analysis beyond traditional accounting measures. This study examines the effect of Intellectual Capital (IC) and Sustainability Reporting (SR) on the financial performance of secondary manufacturing companies in Indonesia. Financial performance is measured using Return on Equity (ROE). The objective of this study is to analyze both the partial and simultaneous effects of IC and SR on ROE. The population of this study consists of all secondary manufacturing companies listed on the Indonesia Stock Exchange during the period 2021–2024. Using a quantitative approach, the data were obtained from annual and sustainability reports published by the companies. The analysis technique employed is multiple regression analysis to test the proposed relationships among variables. The empirical results reveal that Intellectual Capital (IC) has a significant positive effect on financial performance (ROE), indicating that effective management of human, structural, and relational capital enhances firm profitability. In contrast, Sustainability Reporting (SR) shows a significant negative effect on ROE, suggesting that sustainability initiatives may impose short-term financial burdens that have yet to translate into immediate financial returns. However, when tested simultaneously, IC and SR jointly exert a significant positive effect on financial performance. These findings imply that while sustainability reporting may initially reduce profitability due to implementation costs, its integration with strong intellectual capital can enhance long-term firm value. This study provides important insights for managers, investors, and policymakers in developing strategies that balance profitability and sustainability in the manufacturing sector.

Keywords: Intellectual capital; sustainability reporting; financial performance; Return on Equity (ROE); manufacturing companies

Introduction

The emergence of the information age has significantly transformed the global business environment, compelling companies to continuously strengthen their competitive advantage. Financial performance plays a vital role in ensuring corporate sustainability, as it serves as a key reference for investors and stakeholders in decision-making. Traditional financial performance measurements such as liquidity, solvency, profitability, and activity ratios remain important indicators of management effectiveness. Companies in the basic materials and manufacturing industries are required to maintain their financial health through efficient operational activities (Made et al., 2024). In parallel with business globalization and knowledge-based economic development, companies are increasingly shifting from a focus on tangible assets to intangible assets, especially intellectual capital (IC), which includes knowledge, employee skills, organizational systems, and

stakeholder relationships (Azinuddin Ikram et al., 2025; Hartawan et al., 2022; Rahmadi & Mutasowifin, 2021).

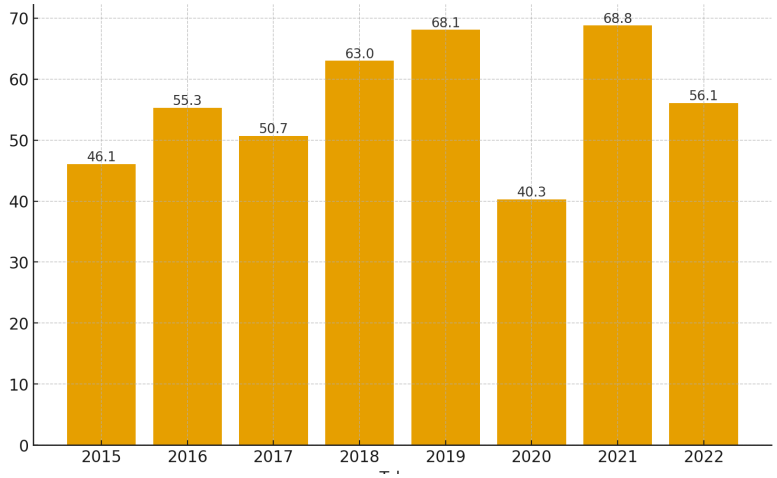

Figure 1. Environmental damage graph (in Millions of Tons)
Source: Bangun et al., (2024)

Alongside this transformation, Figure 1. shows environmental issues have intensified due to rapid industrial activities. Global carbon dioxide emissions reached 36.44 metric tons in 2019 before declining in 2020 due to the Covid-19 pandemic (Qudriyah et al., 2021). This phenomenon highlights the growing urgency for businesses to adopt sustainable practices to protect future generations. Sustainability reporting (SR) has emerged as a key instrument for communicating corporate accountability regarding economic, social, and environmental impacts. In Indonesia, the implementation of sustainability reporting has been strengthened through Financial Services Authority Regulation No. 51/POJK.03/2017, which encourages companies to adopt sustainable finance and disclose sustainability information based on the Global Reporting Initiative (GRI) standards (Initiative, 2019; Anna & Dwi R.T, 2019).

Previous studies indicate that intellectual capital plays an important role in supporting sustainability practices and corporate performance. Research in Australia and India confirms that companies with high IC tend to demonstrate better financial performance and stronger sustainability disclosures (Pew Tan et al., 2007; Kamath, 2015). Similar findings were reported in Southeast Asia, where structural capital was found to significantly influence sustainability reporting among Indonesian manufacturing firms (Widyaningdyah & Mustika, 2020). Further evidence suggests that companies actively engaged in sustainability practices generally possess a more established IC system that supports ESG integration (Noviatin et al. 2025; Cheng et al., 2014). Nevertheless, other studies report contrasting results, showing that IC does not always significantly affect firm value or financial performance (Hartawan et al., 2022; Fahreza, 2021; Cindiyasari et al., 2023; Ortiz-Regalado & Guevara, 2024). These inconsistencies indicate an unresolved empirical gap in the literature.

Based on this research gap and the limited number of empirical studies focusing on Indonesia's secondary manufacturing sector, this study aims to examine the effect of Intellectual Capital (IC) and Sustainability Reporting (SR) on financial performance as measured by Return on Equity (ROE) for the period 2021–2024. This study addresses the following research questions:

1. Does Intellectual Capital (IC) affect company financial performance (ROE)?
2. Does Sustainability Reporting (SR) disclosure affect company financial performance (ROE)?
3. (3) Do Intellectual Capital (IC) and Sustainability Reporting (SR) simultaneously affect company financial performance (ROE)?

Resource Based Theory

Resource Based Theory OR RBT Resource Based Theory or RBT states that every company has the ability to manage all its assets to provide advantages for the company (Barney, 1996). Barney (1996) states in Resource Based Theory that wealth has the potential to provide long-term competitive advantage and is something that is unique and difficult to imitate. As a result, the wealth that exists within a company must be valued. According to this theory, the scarce wealth that each company possesses can be optimized to increase the value of the company. Resource management can help companies generate added value by exploiting opportunities and addressing threats. (Barney, 1996) supports RBT because it divides physical resources into three categories. These categories are technological resources, human resources, and organizational resources. IC is a criterion that is in line with RBT because it believes that companies can gain greater competitive advantage by having better resources.

Financial performance

Financial performance is one of the main indicators used to assess the extent to which a company can achieve its economic goals. According to (Brigham & Houston, 2021), financial performance describes the result of the managerial process that reflects the efficiency and effectiveness of resource utilization to generate profits. The assessment of financial performance is not only the focus of internal management, but also the concern of investors, creditors, regulators, and other stakeholders because it provides a signal about the overall health of the company.

Financial performance measurements are usually conducted through financial ratio analysis covering several aspects. Profitability ratios such as Return on Assets (ROA), Return on Equity (ROE), and Net Profit Margin (NPM) are used to assess a company's ability to generate profits. Liquidity ratios such as Current Ratio and Quick Ratio indicate a company's ability to meet short-term obligations. Solvency ratios such as Debt-to-Equity Ratio (DER) describe the capital structure and ability to meet long-term obligations. Meanwhile, activity ratios, such as Total Asset Turnover (TATO), are used to evaluate the efficiency of asset utilization in operational activities (White et al., 2003).

Factors that influence a company's financial performance can originate from within or outside the organization. Internal factors such as operational cost efficiency, cost structure, management quality, and product innovation can contribute significantly to improved performance. Research by Wahyuni and Prasetyo, (2021) found that the management of fixed assets and company liquidity has a positive effect on the ROA and ROE of manufacturing companies in Indonesia. On the other hand, external factors such as macroeconomic conditions, fiscal and monetary policies, government regulations, and the intensity of industry competition also influence financial performance.

In the context of companies in Indonesia, financial performance is influenced by various unique dynamics. One of these is the ownership structure of companies, which is still dominated by certain families or institutions, and good corporate governance practices, which have a positive correlation with financial performance. Companies that implement the principles of transparency, accountability, and regular external audits demonstrate more stable financial performance and are trusted by investors. This shows that governance plays a strategic role in supporting the achievement of corporate financial objectives (Chia et al., 2023).

Profitability ratios remain the main benchmark for assessing financial performance, especially in the context of capital markets. Research by Fitriani dan Rahmawati (2023) indicates that investors pay more attention to ratios such as ROE and EPS in their investment decisions because they directly reflect the profits received by shareholders. Therefore, many public companies in Indonesia focus on improving profitability indicators to maintain their attractiveness to investors and increase company value.

Good financial performance has a significant impact on a company's ability to survive and grow in the long term. Not only does it increase competitiveness and market value, but it also strengthens the company's position in negotiations with fund providers such as banks and institutional investors. Conversely, declining performance can signal risk and undermine public confidence, ultimately affecting operational sustainability. Therefore, it is important for companies to maintain stable financial performance through integrated strategies and adaptive risk management. Thus, financial performance is a fundamental aspect of corporate management

that not only reflects the ability to generate profits but also measures the company's success in implementing good governance practices and meeting stakeholder expectations. Companies that can maintain strong financial performance have a greater chance of growing sustainably and attracting trust from all elements of the market.

Intellectual capital

Pulic (2000) developed an intellectual efficiency method called VAICTM, which assesses how businesses create added value using three main elements of corporate capital: physical capital (Capital Employed/CE), human capital (Human Capital/HC), and structural capital (Structural Capital/SC). In a knowledge-based economy, VAIC is a management tool for measuring a company's efficiency and productivity. It is primarily concerned with understanding the contribution of Intellectual Capital (IC) to a company's performance. Some of the objectives and benefits of VAIC are 1) to evaluate how effectively businesses use tangible and intangible resources, 2) to provide information to investors about the intellectual strength of companies, 3) to measure financial performance in a non-traditional way, especially for service and knowledge-based businesses (Chen et al., 2005). Pulic (2000) developed three main indices that from VAIC:

i. VACA (Value Added Capital Employed) is the efficient use of physical and financial capital.
ii. VAHU is the efficiency of human capital in creating added value.
iii. STVA is the contribution of structural capital to added value.

Tan et al. (2007) argue that IC contributes to increasing company value through more efficient use of knowledge. IC also plays a strategic role in developing competitive advantages and innovation within companies. In the context of measurement, VAIC is a widely used model due to its ease in obtaining secondary data and its objectivity. However, there is research that proposes combining the VAIC method with a qualitative approach to capture more complex dimensions of IC, such as learning capacity and innovation (Alfraih, 2017).

Meanwhile, Wang (2023) in a cross-industry study in China found that relational capital, particularly collaboration with external stakeholders, significantly influences the effectiveness of corporate sustainability innovation. This shows that corporate social relations are not only a means of communication but also a catalyst for long-term sustainability strategies. From these various research results, it can be concluded that IC is not only a driver of internal efficiency but also a strategic foundation in supporting sustainability, innovation, and competitive advantage. The VAIC model remains relevant, but it needs to be supported by a more flexible approach to capture the dynamics of knowledge in the digital age.

Sustainability reporting

Sustainability Reporting (SR) is defined by the Global Reporting Initiative (GRI) as the practice of transparent and accountable reporting on an organization's performance in economic, social, and environmental aspects. The latest edition of the GRI Standards (2021) encourages companies to report on material issues that have the most impact on sustainability (Initiative, 2019), 2021). Regulatory developments in Indonesia, such as POJK No. 51/POJK.03/2017, are increasingly encouraging companies, particularly in the financial services sector, to integrate SR into their reporting systems. Several other sectors have also voluntarily adopted SR, particularly multinational companies or companies that want to improve their reputation and global competitiveness. The impetus for compiling sustainability reports comes from pressure from stakeholders such as investors, regulators, and consumers. They suggest that sustainability reports should be part of a company's core strategy (de Villiers et al., 2014).

Factors such as company size, profit level, and industry influence the scope of sustainability report disclosure, and top management plays an important role in determining the direction of sustainable reporting (Hahn & Kühnen, 2013). Currently, Indonesian companies state that most companies still focus on economic aspects in their sustainability reports, while social and environmental aspects are still not optimally disclosed (Wicaksono, 2022). In addition, the PROPER program from the Ministry of Environment and Forestry

(KLHK) also encourages SR, especially in environmental aspects, providing reputation incentives for companies that comply with environmental management standards.

Velte (2022) revealed that the integration of SR with the ESG (Environmental, Social, Governance) framework is a major requirement for today's companies. Companies that implement comprehensive and ESG-based SR have proven to be more resilient to external shocks such as pandemics and energy crises. Thus, sustainability reporting is now not just a reporting trend, but has become a strategic instrument that influences social legitimacy, investor relations, and long-term business sustainability.

The Relationship between Intellectual Capital and Sustainability Reporting

Many studies have examined the relationship between IC and SR. (Buallay et al., 2020) states that companies with high VAIC scores have superior ESG performance. This shows that IC can be a relevant non-financial indicator for assessing the quality of sustainability reporting. Human capital is also considered important because the competencies and ethical values of a company's human resources influence its commitment to sustainability. Putri & Kartika (2022), and Widaningdyah and Mustika (2020) found that IC contributes positively to the quality of sustainability reporting, both in terms of quantity and depth of disclosure.

With good IC management, companies can design SR that is not only a formality, but also meaningful and relevant to stakeholders. This literature review confirms that intellectual capital is not only an internal strategic asset, but also an external enabler in supporting corporate openness and transparency through sustainability reporting.

Methodology

This study adopts a quantitative approach with a causal-comparative research design. This approach is employed to examine the causal relationships between Intellectual Capital (IC) and Sustainability Reporting (SR) as independent variables and financial performance, measured by Return on Equity (ROE), as the dependent variable (Hair et al., 2019). The study utilizes secondary quantitative data obtained from the annual reports and sustainability reports of companies listed on the Indonesia Stock Exchange (IDX) for the period 2021–2024. This period was selected based on the availability and consistency of sustainability report disclosures, as well as the standardized implementation of the Global Reporting Initiative (GRI) Standards, which serve as the primary guideline for measuring the level of sustainability disclosure (Global Reporting Initiative, 2021).

Sample and sampling strategy

The population of this study consists of all secondary manufacturing companies listed on the IDX that have published sustainability reports. Secondary manufacturing (non-financial) companies were selected to minimize regulatory bias associated with the financial sector, which is subject to stricter disclosure requirements, and to obtain a broader variation in sustainability reporting practices (Ghozali, 2011). The sample was determined using purposive sampling with the following criteria: (1) the company consistently published a complete and stand-alone sustainability report based on GRI Standards for four consecutive years (2021–2024), and (2) data related to the components of intellectual capital were available in the annual reports, particularly financial information required to calculate the Value Added Intellectual Capital Coefficient (VAIC™) as proposed by Pulic (1998).

Data collection techniques

Data collection techniques were carried out through documentation studies by accessing and downloading relevant company documents from the official website of the Indonesia Stock Exchange (www.idx.co.id), the official websites of each company, and other publication sources such as the GRI Database or CSRD Platform (Global Reporting Initiative, 2021). The types of data collected include:

1. Financial data to calculate IC components such as value added, labor costs, and fixed assets.
2. Company sustainability reports to measure the level of disclosure based on GRI indicators.

Intellectual Capital measurement uses the VAIC method introduced Pulic (1998). It consists of Calculating Value Added (VA), Calculating Value Added Capital Employed (VACA), Calculating Structural Capital Value Added (STVA), and Calculating Value Added Intellectual Coefficient (VAIC™). VA shows the value obtained by a company during a certain period of time and is calculated as the difference between input and output. The calculation formula is as follows:

$$VA = OUT - IN$$

VA : *Value added*
Output : Total revenue
Input : expenses (excluding employee expenses)

VACA shows the contribution made by each unit of physical capital employed to the organizationz's value added. VACA is calculated using the following formula:

$$VACA = \frac{VA}{CE}$$

C: Capital employed (total equity)

VAHU demonstrates the significant contribution of its workforce, and the calculation formula is as follows:

$$VAHU = VA/HC$$

STVA is used to calculate the amount of Structural Capital (SC) needed to generate 1 rupiah from VA. STVA is calculated using the following formula:

$$STVA = SC/VA$$

$$STVA = (VA\text{-}HC)/VA$$

VAIC™ indicated intellectual ability obtained using the following formula:

$$VAICTM = VACA + VAHU + STVA$$

Sustainability Reporting measurements are conducted using a content analysis method based on GRI Standards. The disclosure index is calculated from the number of items disclosed by the company compared to the total number of items that should be disclosed according to GRI (Global Reporting Initiative, 2021).

Data analysis techniques

This study employs multiple regression analysis as the main data analysis technique to examine the effect of Intellectual Capital and Sustainability Reporting on financial performance. Prior to conducting the multiple regression analysis, the data were tested to ensure that they met the classical assumption requirements. The classical assumption tests applied in this study include the normality test, autocorrelation test, multicollinearity test, and heteroscedasticity test. The normality test is used to determine whether the research data are normally distributed and is conducted using the Kolmogorov–Smirnov method, with the criterion that the significance value (sig.) must exceed 0.05 (Ghozali, 2011).

The autocorrelation test is performed to examine whether there is a correlation between the residuals at time t and those at time t–1 in the linear regression model. This test employs the Run Test to assess whether the data are randomly distributed, with a significance value greater than 0.05 indicating the absence of autocorrelation (Siregar, 2017). The multicollinearity test is conducted to determine whether there is a high correlation among the independent variables in the regression model by examining the Variance Inflation

Factor (VIF). A VIF value below 10 indicates that multicollinearity is not present (Hair et al., 2019). Finally, the heteroscedasticity test is used to detect whether the variance of the residuals is constant across observations, using either the Glejser test or the Breusch–Pagan test, with a significance value greater than 0.05 indicating the absence of heteroscedasticity (Ghozali, 2011). After the classical assumption test is fulfilled, multiple regression testing can be performed to determine the relationship between the independent variable and the dependent variable, with the following equation:

$$Y= \alpha+\beta1\ IC+\beta2\ SR+\varepsilon\_it$$

SR :Sustainability Reporting
IC :Intellectual Capital
α :Konstanta
β1 – β2 :Koefisien regresi
ε_it :Error term (Pulic, 1998)

Model significance testing in this study is conducted using several statistical procedures, namely the coefficient of determination (R^2), the F-test, and the t-test. The coefficient of determination (R^2) is used to measure the extent to which the independent variables explain the variation in the dependent variable (Sugiyono, 2022). The F-test is employed to examine whether all independent variables simultaneously have a significant effect on the dependent variable (Ghozali, 2011), while the t-test is used to assess the partial significance of each independent variable on the dependent variable individually (Hair et al., 2019). All data analyses are performed using SPSS statistical software. The results of these analyses are expected to provide empirical evidence on how intellectual asset management contributes to enhancing corporate transparency and accountability within the context of sustainability reporting in Indonesia (Nadeem et al., 2019).

The Findings

This section presents the empirical results of the study examining the effect of Intellectual Capital (IC) and Sustainability Reporting (SR) on financial performance as measured by Return on Equity (ROE) among secondary manufacturing companies in Indonesia. The analysis consists of descriptive statistics, classical assumption tests, and hypothesis testing using multiple regression analysis. All statistical analyses were conducted using SPSS.

Table 1. Descriptive statistical test results

Variable	N	Minimum	Maximum	Mean	SD
IC	791	-10.87	12.53	2.3446	2.29371
SR	791	0.00	1.00	0.76	0.427
ROE	791	-15.76	24.38	6.1531	7.90015

Based on the descriptive statistical results (Table 1), the average value of Intellectual Capital (IC) is 2.3446, with a maximum value of 12.53. The highest IC score was recorded by Triputra Agro Persada Tbk in 2022, indicating a superior level of intangible resource utilization compared to other firms in the sample. The Sustainability Reporting (SR) variable shows a mean value of 0.76, with a maximum value of 1.00, which represents firms that fully publish sustainability reports in accordance with prevailing standards. Meanwhile, the average Return on Equity (ROE) is 6.1531, with the highest value of 24.38 achieved by Selamat Sempurna Tbk in 2021. These results reflect considerable variation in the levels of IC, SR, and financial performance across firms, suggesting heterogeneity in strategic resource management and sustainability practices within the Indonesian manufacturing sector.

Table 2. One-Sample Kolmogorov–Smirnov Test for normality (unstandardized residual)

Statistic	Value
N	791
Mean	0.0000000
Standard Deviation	7.28126948
Most Extreme Differences (Absolute)	0.030
Most Extreme Differences (Positive)	0.030
Most Extreme Differences (Negative)	-0.022
Test Statistic	0.030
Asymp. Sig. (2-tailed)	0.080

Prior to hypothesis testing, classical assumption tests were conducted to ensure the validity of the regression model. The normality test using the Kolmogorov–Smirnov method (Table 2) shows an Asymp. Sig. (2-tailed) value of 0.080, which exceeds the threshold of 0.05, indicating that the residuals are normally distributed. This confirms that the data satisfy the normality assumption required for multiple regression analysis. The autocorrelation test (Table 3) yields an Asymp. Sig. (2-tailed) value of 0.859, which is also greater than 0.05, indicating that there is no serial correlation among the residuals. This suggests that the observations are independent and free from autocorrelation problems.

Table 2. Autocorrelation test results

Statistic	Value
Test Value (Median)	-0.50049
Cases < Test Value	395
Cases ≥ Test Value	396
Total Cases	791
Number of Runs	399
Z	0.178
Asymp. Sig. (2-tailed)	0.859

Table 3. Multicollinearity test results

Variable	Tolerance	VIF
IC	0.993	1.007
SR	0.993	1.007

The multicollinearity test results (Table 4) show that all independent variables have tolerance values greater than 0.10 and Variance Inflation Factor (VIF) values below 10. These results indicate that there is no strong correlation among the independent variables, confirming the absence of multicollinearity and ensuring the stability and reliability of the regression coefficients.

Table 5. Heteroscedasticity test results

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	6.038	0.376	—	16.058	0.000
IC	-0.018	0.070	-0.009	-0.258	0.797
SR	-0.344	0.375	-0.033	-0.917	0.359

Furthermore, the heteroscedasticity test (Table 5) demonstrates that all independent variables exhibit significance values greater than 0.05, indicating that the variance of the residuals is constant. Therefore, the regression model does not suffer from heteroscedasticity and meets the homoscedasticity assumption.

The coefficient of determination test (Table 6) shows that the Adjusted R-square value is 0.148. This indicates that Intellectual Capital and Sustainability Reporting jointly explain 14.8% of the variation in financial performance (ROE) among the sampled firms. Although this explanatory power is relatively modest, it is acceptable given the complexity of financial performance, which is influenced by numerous internal and external factors. The remaining 85.2% of the variation in ROE is explained by other variables not included in the model, such as firm size, leverage, market conditions, operational efficiency, and macroeconomic factors.

Table 4. Coefficient of determination test results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.388	0.151	0.148	7.29050

Table 5. Multiple regression analysis test results

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	4.335	0.611	—	7.094	0.000
IC	1.281	0.113	0.372	11.292	0.000
SR	-1.559	0.610	-0.084	-2.555	0.011

The multiple regression analysis results (Table 7) yield the following regression equation:

$$Y = 4{,}335 + 1{,}281\ IC - 1{,}559\ SR$$

This regression equation indicates that Intellectual Capital has a positive coefficient of 1.281, suggesting that improvements in IC significantly enhance financial performance. Conversely, Sustainability Reporting has a negative coefficient of –1.559, indicating that an increase in sustainability disclosure is associated with a decline in short-term ROE. The constant value of 4.335 implies that when IC and SR are assumed to be zero, the baseline ROE is 4.335. The partial significance test (t-test) results (Table 8) show that Intellectual Capital has a significance value of 0.000, which is below the 0.05 significance level. This result confirms that IC has a statistically significant positive effect on financial performance (ROE), supporting the first hypothesis of the study. Similarly, Sustainability Reporting has a significance value of 0.011, which is also below 0.05, indicating that SR has a statistically significant effect on ROE. However, the negative regression coefficient implies that the effect is adverse in the short term, thereby supporting the second hypothesis that SR significantly influences financial performance, albeit in a negative direction.

The simultaneous significance test (F-test) results (Table 9) show a significance value of 0.000, which is well below the 0.05 threshold. This indicates that Intellectual Capital and Sustainability Reporting jointly have a statistically significant effect on financial performance (ROE). The result confirms that the regression model is fit and that IC and SR, when considered together, play an important role in explaining variations in firm profitability. Overall, the empirical findings demonstrate that Intellectual Capital is a key driver of financial performance among Indonesian secondary manufacturing firms, while Sustainability Reporting exerts a significant but negative short-term effect on profitability. Furthermore, the joint significance of IC and SR highlights the importance of simultaneously managing intangible resources and sustainability disclosure to enhance corporate financial outcomes in Indonesia.

Discussion

The empirical findings indicate that Intellectual Capital (IC) has a significant positive effect on financial performance as measured by Return on Equity (ROE). This result is consistent with the Resource-Based View

(RBV) theory, which posits that firms achieve sustained competitive advantage through the effective utilization of valuable, rare, inimitable, and non-substitutable resources, particularly intangible assets such as human expertise, organizational systems, and relational networks. The finding also supports the Value Added Intellectual Coefficient (VAIC™) model introduced by Pulic (2000), which emphasizes the efficiency of Capital Employed (CE), Human Capital (HC), and Structural Capital (SC) in creating corporate value. Effective management of these components enhances operational efficiency, innovation capability, and competitive positioning, which ultimately contributes to higher profitability. This study is in line with prior empirical evidence reported by Pew Tan et al. (2007), Kemath (2015), and Widyaningdyah and Mustika (2020), all of which documented a significant positive relationship between IC and firm performance. However, the present findings contradict those of Putri and Kartika (2022), who found no significant effect of intellectual capital on firm value. Such discrepancies may be attributed to differences in industrial structure, levels of technological adoption, institutional environments, and the proxies used to measure intellectual capital and firm performance.

The results further reveal that Sustainability Reporting (SR) has a significant negative effect on financial performance (ROE), indicating that higher levels of sustainability disclosure tend to reduce short-term profitability. From the perspective of Stakeholder Theory, firms engage in sustainability reporting to fulfill the informational needs and expectations of various stakeholder groups, including investors, regulators, employees, and the wider society. However, in the short run, the costs associated with environmental and social data collection, monitoring systems, compliance requirements, and the preparation of sustainability reports may outweigh the immediate financial benefits, thereby exerting downward pressure on ROE. From the standpoint of Legitimacy Theory, sustainability reporting serves as a strategic tool through which firms seek to maintain congruence between their operations and societal norms and values. Although this legitimacy can enhance corporate reputation and public trust over time, its financial payoff may not be realized in the short term. Therefore, the negative relationship observed in this study suggests that the economic benefits of sustainability initiatives are more likely to materialize over a longer time horizon compared to short-term accounting-based performance indicators.

The simultaneous test results demonstrate that Intellectual Capital and Sustainability Reporting jointly exert a significant effect on financial performance, highlighting a complementary relationship between intangible resources and sustainability practices. In line with the RBV, the presence of strong intellectual capital enables firms to implement sustainability strategies more efficiently and to transform sustainability-oriented activities into sources of innovation and value creation. At the same time, guided by Stakeholder and Legitimacy Theories, transparent and credible sustainability reporting strengthens corporate reputation, enhances investor confidence in Environmental, Social, and Governance (ESG) practices, and reinforces relationships with key stakeholders. When implemented concurrently, IC and SR reinforce one another, as skilled and knowledgeable employees facilitate the effective execution of sustainability initiatives and high-quality disclosure, while sustainability commitments foster stronger organizational culture, employee motivation, and loyalty. This reciprocal interaction ultimately improves efficiency, drives innovation, and supports the achievement of sustainable financial performance.

Conclusion

This study concludes that Intellectual Capital (IC) has a significant positive effect on financial performance (ROE), confirming its role as a strategic driver of long-term value creation through the strength of human, structural, and relational capital. Conversely, Sustainability Reporting (SR) demonstrates a significant negative effect on ROE, indicating that SR is still perceived as a cost-intensive activity that has not yet yielded measurable financial benefits, despite its potential to enhance corporate image and stakeholder trust. The study also finds that IC and SR jointly exert a significant influence on financial performance, suggesting that effective IC management enables companies to produce sustainability reports that are more relevant, credible, and aligned with stakeholder expectations. Based on these findings, companies are encouraged to strengthen their IC management by investing in human resource development, innovation, and operational efficiency, as these elements contribute to improved profitability and competitiveness. At the same time, sustainability

reporting should be integrated with cost-efficient strategies to ensure that disclosures not only enhance reputation but also support value creation. For future research, it is recommended to incorporate additional performance indicators such as NPM or ROA, extend the research period, and explore different industries or regions to gain broader insights into the relationship between IC, SR, and financial performance.

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