



The Effect of Green Accounting, Intellectual Capital, Carbon Emission Disclosure, and Leverage on Corporate Financial Performance in Basic Material Sector Companies Listed on the Indonesia Stock Exchange in 2021-2024

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Abstract:

This study aims to examine the effect of green accounting, intellectual capital, carbon emission disclosure, and leverage on the financial performance of basic materials sector companies listed on the Indonesia Stock Exchange during the 2021–2024 period. This research employed a quantitative approach using secondary data. The sample was selected through purposive sampling, resulting in 168 observations from 42 companies. After removing 19 outlier observations due to normality issues, the final sample consisted of 149 observations from 41 companies. The data were analyzed using panel data regression with EViews 13. The results indicate that green accounting and carbon emission disclosure have no significant effect on financial performance. In contrast, intellectual capital has a significant positive effect, while leverage has a significant negative effect on corporate financial performance. These findings suggest that effective management of intellectual capital enhances corporate value creation. Conversely, the suboptimal use of debt financing indicates that the benefits of leverage, including tax savings, are insufficient to offset interest expenses and financing risks. As a result, leverage in this study negatively affects corporate financial performance. Furthermore, green accounting practices and carbon emission disclosure have not been able to improve financial performance because their implementation remains largely compliance-oriented and requires relatively high costs. The findings of this study are expected to enrich the literature on the determinants of corporate financial performance in the basic materials sector and provide insights for management in optimizing the utilization of intellectual capital, capital structure, and the implementation of sustainability practices.

Keywords: green accounting, intellectual capital, carbon emission disclosure, leverage, financial performance.

BACKGROUND

Financial performance is a critical indicator of corporate sustainability and financial health because it reflects how far a company can achieve its financial targets and maintain its business continuity (Pulungan et al., 2023). It also provides useful information for identifying trends, weaknesses, and opportunities that can support managerial decision-making. For profit-oriented companies, financial performance serves as a form of accountability to owners and other stakeholders. A sound understanding of financial performance is therefore essential, since it shows whether a company has been able to manage its resources efficiently and maintain its reputation in a competitive business environment. In this study, financial performance is measured using Return on Assets (ROA), which reflects the company's ability to generate profit from its total assets. A higher ROA indicates more efficient asset utilization and stronger profit-generating capacity (Pratama et al., 2024; Nugroho et al., 2024). ROA is also widely



used to evaluate whether a company has improved its performance from one period to another through financial statement analysis (Handayani & Rochmatullah, 2024).

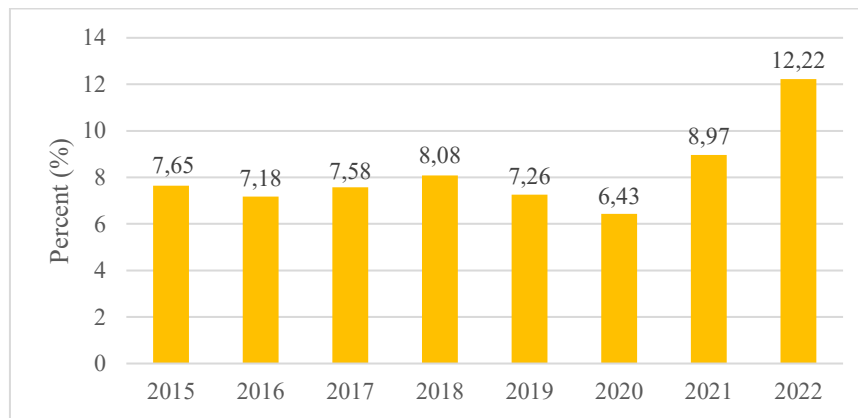


Figure 1. Trend of the Mining Sector's Share of National Gross Domestic Product (GDP), 2015–2022

Source: Taufikurahman et al. (2023)

Indonesia's economy is strongly influenced by the basic materials sector, particularly mining-related activities, which contribute not only through export earnings and foreign investment inflows but also through employment creation, industrial raw material supply, domestic fuel distribution, and broader multiplier effects across the economy. Taufikurahman et al. (2023) show that every 1% increase in nickel mining investment and operations in Southeast Sulawesi contributes an additional 0.98% to Indonesia's gross domestic product, while the contributions in South Sulawesi, North Maluku, and Central Sulawesi reach 0.92%, 0.72%, and 0.66%, respectively. Although the mining sector experienced a decline during the Covid-19 pandemic, its contribution to national GDP recovered significantly, increasing from 6.43% in 2020 to 8.97% in 2021 and 12.22% in 2022. This trend confirms the growing importance of the extractive industry in national economic development. In the capital market, mining stock prices also strengthened and contributed to the movement of the Composite Stock Price Index, indicating the strategic position of this sector in Indonesia's economy (Mawarda et al., 2025).

Despite its significant economic contribution, the mining industry in Indonesia is frequently linked to environmental issues such as water and air pollution, land degradation, and ecosystem damage (Sembiring et al., 2024). Mining also impacts the social and economic conditions of nearby communities. Evidence from Kalimantan shows that mining operations cause landscape changes, soil erosion, agricultural land damage, and decreased water quality (Fashlih et al., 2025). Data from Jaringan Advokasi Tambang reported 45 mining-related conflicts in 2020, up from 11 the previous year, with 24 deaths in mining pits. This highlights the significant social and environmental costs that accompany the industry's economic benefits (Arifianti & Widianingsih, 2023).

The mining industry's environmental impact is compounded by stricter regulations, including the Peraturan Otoritas Jasa Keuangan (POJK) No. 51/POJK.03/2017, which requires companies to disclose sustainability practices. This regulation has led to increased transparency but also higher operational costs for compliance (Tuti & Sisdianto, 2024). Green accounting has emerged as a solution for companies to account for and disclose environmental costs,



supporting long-term sustainability and reducing future risks such as environmental recovery costs and legal penalties. However, the short-term financial impact of green accounting may be negative, as it incurs additional costs related to waste management and sustainability reporting (Rahayu et al., 2025).

Carbon emission disclosure, a key component of sustainability reporting, also plays a significant role in a company's financial performance. Studies show that companies that disclose their emissions build stakeholder trust and improve financial performance (Maryanti et al., 2025). However, the financial effects are not always immediate, with some studies suggesting that the impact may not be fully realized in operational efficiency (Yanti & Sofie, 2025). Another crucial factor is intellectual capital, which encompasses human, structural, and relational capital. These forms of capital are essential for innovation, operational efficiency, and competitive advantage, thus influencing financial (Acuña-Opazo & González, 2021). Yet, previous research on the impact of intellectual capital on financial results remains inconsistent (Priamita et al., 2025)

Leverage also influences financial performance, as debt financing helps companies meet operational needs but increases financial risk due to higher interest expenses and fixed repayments. Studies show a mixed relationship between leverage and financial performance, with some indicating a negative impact due to increased financial obligations (Maharani & Dewi, 2025), while others suggest that optimal debt use can enhance profitability (Aden & Idayati, 2023). Given these varying findings, there is a clear gap in understanding the relationships between green accounting, intellectual capital, carbon emission disclosure, leverage, and financial performance. This study aims to analyze these factors and their influence on the financial performance of companies in Indonesia's basic materials sector, addressing inconsistencies in prior research and offering a clearer empirical foundation.

THEORETICAL FRAMEWORK

Legitimacy Theory

Legitimacy Theory suggests that companies aim to establish positive relationships with society through effective communication to ensure their operational activities are socially accepted and minimize environmental harm (Yadikarsa & Ng, 2025). Companies are encouraged to voluntarily disclose environmental information as part of their social responsibility and long-term business strategy.

When company activities do not align with societal expectations, social acceptance may decline. Thus, companies need to adopt strategies that prevent conflicts with their social environment (Kencana et al., 2025). High social acceptance helps bridge the gap between company and community interests.

Resource-Based Theory

Resource-Based Theory (RBT) emerged from economic studies in the 1950s, focusing on identifying resource characteristics that sustain competitive advantage. This approach emphasizes the importance of developing skills, managing assets, and creating effective organizational processes to add value to the company (Utami et al., 2025). By optimizing these resources, companies can maintain a sustainable competitive position. RBT argues that a company's strategy is primarily determined by internal factors such as resource ownership, assets, organizational capabilities, and competencies. Therefore, achieving competitive



advantage relies not only on external conditions but also on the company's ability to optimally utilize and manage its internal capabilities.

RBT assumes that a company's ability to compete is determined by how effectively it manages its resources in line with internal capabilities (Aslamiyah et al., 2024). Competitive advantage is not solely derived from market conditions but from the effective use of assets, organizational skills, and competencies that are difficult for competitors to replicate.

Trade-Off Theory

The trade-off theory developed by Modigliani and Miller explains that firms determine an optimal capital structure by balancing the benefits of debt financing against its associated costs (Siregar et al., 2021). The primary advantage of debt lies in the tax shield generated through interest expenses, whereas excessive leverage increases the likelihood of financial distress, bankruptcy costs, and agency costs arising from conflicts of interest between shareholders and creditors. These risks encourage creditors to impose stricter monitoring mechanisms, including more rigorous lending requirements and higher interest rates.

Siregar et al. (2021) argue that firms gradually adjust their capital structure toward an optimal debt ratio to maximize financial performance. This condition is referred to as the *static trade-off*, in which the tax benefits of debt are balanced against bankruptcy and capital costs, resulting in the most efficient financing structure.

Financial Performance

Financial performance is commonly used to assess a company's ability to achieve its financial goals (Hallauw & Widyawati, 2021). It reflects how effectively the company manages its financial activities in accordance with applicable regulations. This provides an overview of the company's financial condition over a certain accounting period, including aspects of fund collection and allocation. Financial performance is generally measured through indicators such as profitability, capital adequacy, and liquidity (Mustafani et al., 2022).

In this study, financial performance is measured using the Return on Assets (ROA) ratio, as it indicates the company's effectiveness in utilizing its assets to generate profits (Sing et al., 2022). According to Krisnawati (2022), financial performance represents the achievements made by all departments in a company, reflected in the company's financial position during a specific period. Therefore, it can be concluded that financial performance is the level of success a company has in managing and utilizing its resources effectively and efficiently within a given period, which is reflected in the financial condition through capital capacity, liquidity, and profitability.

$$\text{Return on Asset (ROA)} = \frac{\text{Net Income}}{\text{Total Assets}}$$

Green Accounting

Green accounting is an essential practice for companies focused on sustainability, helping to manage environmental impacts and measure resource efficiency (Aristiyanti & Sisdianto, 2024). This approach integrates environmental costs into financial systems, making it an essential tool for decision-making and transparent reporting. Companies that adopt green



accounting not only improve their environmental responsibility but also enhance their public image and financial performance (Hendrawati & Sheryn, 2020). It is measured by comparing environmental expenditures, such as CSR activities, to net profit after tax, reflecting the company's commitment to sustainable operations (Lestari et al., 2025).

In addition to managing environmental costs, green accounting strengthens relationships with stakeholders and supports the achievement of sustainable development goals (Hidayati et al., 2024). The practice creates greater transparency and trust, positively influencing the company's financial performance. The environmental cost approach, which measures financial commitment to environmental conservation, helps illustrate the balance between a company's environmental impact and its profitability, highlighting the importance of integrating sustainability into business strategies for long-term success (Adnyana et al., 2024).

$$\text{Environmental Cost} = \frac{\text{Environmental Cost}}{\text{Net Income}}$$

Intellectual Capital

Intellectual Capital (IC) refers to the combination of intangible resources and organizational activities that transform physical, financial, and human resources into systems that create value for stakeholders (Ma'wa & Rahmawati, 2023). This concept emphasizes the competitive advantage gained through knowledge and expertise within the company, which are leveraged to enhance business performance. According to (Wijayani, 2017), IC encompasses the intellectual wealth that supports business operations, focusing on both human and structural capital, as well as the tools that enable effective business processes.

In this study, intellectual capital is assessed using the Value Added Intellectual Coefficient (VAICTM) method, which measures the efficiency of value creation from tangible and intangible assets. The method includes three key components: Human Capital Efficiency (HC), Structural Capital Efficiency (SC), and Capital Efficiency (CE). The formula for calculating VAICTM is as follows:

$$VAIC^{TM} = \frac{VA}{CE} + \frac{VA}{HC} + \frac{SC}{VA}$$

Where each component is designed to assess the contribution of human, structural, and physical capital to the company's overall value creation. Specifically, VACA measures the value added per unit of physical capital employed, VAHU quantifies the value added through human capital, and STVA assesses the contribution of structural capital. This approach provides a comprehensive view of how intangible resources contribute to financial outcomes, as seen through the interaction of human and structural capital with the company's physical assets.

Carbon Emission Disclosure

Carbon emissions, resulting from the burning of fossil fuels like diesel and gasoline, are a significant environmental concern (Ferlita et al., 2023). Carbon emission disclosure refers to the reporting of the carbon produced by a company's operations over a specific period (Amira et al., 2024). Mining operations, being energy-intensive, contribute significantly to these emissions, which exacerbate global warming and climate change risks. Therefore, managing carbon emissions is crucial for mining companies, who can implement measures like energy efficiency, renewable energy use, and environmental technologies to reduce their impact.



In this study, carbon emission disclosure is assessed through eighteen indicators, evaluated with a dichotomous scoring method: a score of 1 for disclosed information and 0 for non-disclosure. The level of carbon emission disclosure (CED) is calculated using the formula:

$$\text{Carbon Emission Disclosure (CED)} = \frac{(\sum d_i)}{M}$$

Where $\sum d_i$ is the total score of 1s from the disclosure items, and M is the maximum number of items. This approach helps measure the transparency of companies in reporting their environmental impact, with higher disclosure levels improving stakeholder trust and potentially enhancing company value.

Table 1. Scope 1, Scope 2, and Scope 3 Greenhouse Gas (GHG) Emissions Disclosure

No.	Category	Item	Description
1	Climate Change (CC): Risk and Opportunity	CC1	Assessment or description of risks (both specific and general regulations) related to climate change and the actions taken to manage these risks.
		CC2	Assessment or description of the financial, business implications, and opportunities regarding climate change, both in the present and future.
2	Greenhouse Gasses (GHG)	GHG1	Description of the methods used to calculate greenhouse gas (GHG) emissions.
		GHG2	Continuity of external verification regarding the quantity of greenhouse gas (GHG) emissions.
		GHG3	Total greenhouse gas emissions (metric tons of CO ₂) generated.
		GHG4	Disclosure of scope 1, 2, or 3 direct GHG emissions.
		GHG5	Disclosure of GHG emissions by source (e.g., coal, electricity, etc.).
		GHG6	Disclosure of GHG emissions by facility or segment level.
		GHG7	Comparison of GHG emissions with the previous year.
3	<i>Energy Consumption</i> (EC)	EC1	Total energy consumed (e.g., tera-joules or peta-joules).
		EC2	Energy usage from renewable sources.
		EC3	Disclosure by type, facility, or segment.



No.	Category	Item	Description
4	<i>Reduction cost</i> (RC)	RC1	Explanation of the planning or strategy to reduce Greenhouse Gas emissions.
		RC2	Specification of the level of Greenhouse Gas emission reduction and annual targets.
		RC3	Emission reductions and associated costs incurred or to be provided.
		RC4	Future emission costs included in capital planning.
5	<i>Accountability Carbon Cost</i> (ACC)	ACC1	Indication of where the board committee (or executive body) is responsible for climate change-related activities.
		ACC2	Description of the mechanisms established by the board (or other executive body) for reviewing the company's climate change sustainability.

Source: Choi et al. (2013)

Leverage

Leverage measures a company's reliance on debt financing, represented by ratios such as the Debt to Equity Ratio (DER), Debt to Asset Ratio (DAR), and Debt to Capital Ratio. According to (Daruwala, 2023), leverage indicates how much a company depends on external funding, with higher ratios signaling increased financial risk. A higher DER suggests greater dependence on debt, raising financial obligations and risk, especially during economic downturns (Kasmir, 2019). The DAR shows the proportion of assets funded by debt, with higher values indicating lower solvency. The Debt to Capital Ratio measures the share of debt in the company's overall capital structure (Oktaviana & Choir, 2024). Previous research, such as Sari & Sumiyarsih (2022) and Kusumaningtyas & Aris (2026), uses these ratios to assess financial risk, emphasizing that leverage should be analyzed within the same industry to account for different capital structures (Lestar & Riduwan, 2025).

$$\text{Debt to Equity Ratio (DER)} = \frac{\text{Total Liabilities}}{\text{Total Equity}}$$

HYPOTHESIS DEVELOPMENT

Effect of Green Accounting on Financial Performance

Green accounting involves measuring, reporting, and analyzing the environmental costs and benefits of a company's operations (Lubis et al., 2024). It integrates environmental impact data into conventional financial reporting, aiming to reflect environmental factors in a company's overall performance (Putra & Sisdianto, 2024). As sustainability awareness grows, companies allocate more resources to green accounting, which often leads to compliance-driven costs, such as fines and remediation efforts (Hafidz & Artiningsih, 2025). These costs can negatively affect financial performance in the short term by increasing operational



expenses. However, while the long-term benefits of green accounting, such as efficiency and improved reputation, are clear, its short-term impact on profitability is generally negative.

From a legitimacy theory perspective, companies adopt green accounting to align their operations with societal expectations, thus improving public image. However, these efforts can incur costs that negatively affect financial performance, as noted by Nadila et al. (2025) and others. According to trade-off theory, while environmental costs increase operational burdens, they also reduce the risk of legal penalties (Christiani & Rahmadhani, 2024). Based on these insights, the hypothesis is:

H1: Green Accounting negatively impacts financial performance.

Effect of Intellectual Capital on Financial Performance

Intellectual capital, which combines intangible resources and organizational activities, transforms physical, financial, and human resources into value-creating systems (Wijayani, 2017). Effectiveness management of intellectual capital allows companies to enhance profits by leveraging their knowledge resources. Carolina (2024) defines intellectual capital as an intangible asset derived from knowledge, experience, and technology utilization. Puspita & Wahyudi (2021) further explain it as the difference between a company's value and the cost of asset returns, reflecting key components of capital, particularly in manufacturing and knowledge-based industries.

In the context of resource-based theory, intellectual capital management is seen as optimizing internal resources to achieve a competitive advantage. By enhancing employee quality, organizational systems, and business relationships, companies strengthen their capabilities, enabling more effective and innovative operations. This results in value creation that is hard to replicate, improving the company's market position. Based on prior research (Susanti et al. 2025; Gani, 2022; dan Priamita et al., 2025), the hypothesis is formulated as follows:

H2: Intellectual Capital positively influences financial performance.

Effect of Carbon Emission Disclosure on Financial Performance

Carbon emission disclosure refers to the reporting of quantitative and qualitative information regarding a company's carbon emissions, including historical performance, emission reduction targets, and environmental management strategies (Marlina & Herawaty, 2024). This disclosure reflects corporate transparency and accountability in addressing environmental impacts while providing relevant information to stakeholders.

Legitimacy theory suggests that companies seek to align their operations with societal expectations to maintain public acceptance and organizational legitimacy. Transparent carbon emission disclosure demonstrates environmental responsibility, which may enhance corporate reputation and stakeholder trust. However, implementing and disclosing carbon-related information often requires substantial costs that may reduce profitability in the short term (Yuliandhari & Ramadhanty, 2024). Previous studies also report that carbon emission disclosure negatively affects financial performance because higher operational costs and limited disclosure quality may weaken consumer demand and reduce profitability (Rahmatania et al., 2024). Based on these arguments, the following hypothesis is proposed:

H3: Carbon emission disclosure negatively influences financial performance.



Effect of Leverage on Financial Performance

Leverage represents the extent to which a company relies on debt financing to support its business activities, creating fixed financial obligations that may affect profitability (Susilawati & Purnomo, 2023). According to the trade-off theory, debt financing provides tax shield benefits through interest deductions, enabling firms to increase value when debt is maintained at an optimal level.

Optimal leverage allows companies to finance growth while maximizing the benefits of debt financing. Prior studies (Az-Zahra & Yuniningsih, 2025; Setiawan & Suwaidi, 2022; William, 2023) found that leverage has a positive effect on financial performance. Therefore, the proposed hypothesis is as follows:

H4: Leverage positively influences financial performance.

METHOD

The population in this study consists of all companies listed on the Indonesia Stock Exchange (IDX) in the basic material sector during the 2021–2024 period. These companies meet specific criteria to be studied in order to draw valid conclusions (Sugiyono, 2013). The sample for this study is selected from companies in the basic material sector and mining industry that were listed on the IDX between 2021 and 2024 and meet the established criteria for research.

Table 2. Research Sample Selection

Description	Amount
All basic materials mining companies listed on the Indonesia Stock Exchange (IDX).	113
Basic materials mining companies listed on the IDX but not continuously from 2021-2024.	(21)
Basic materials mining companies that did not publish financial and/or sustainability reports during 2021-2024.	(34)
Basic materials mining companies that did not report environmental costs and/or carbon emission disclosures in their sustainability reports.	(16)
Total companies meeting the criteria	42
Total data observations (42*4)	168

Source: Processed by the Author, 2026

This study employs purposive sampling, a technique for selecting samples based on specific criteria set by the researcher (Sugiyono, 2013). The selected companies are those that align with the research focus and criteria. Data for this research is secondary, obtained from financial reports published on the official IDX website. Data processing is performed using Eviews version 13, with panel data regression analysis to analyze the mixed data from time series (2021–2024) and cross-sectional data from the mining sector companies.

**RESULT****1. Descriptive Statistical Test****Table 3. Descriptive Statistics Results**

	<i>Green Accounting</i>	<i>Intellectual Capital</i>	<i>CED</i>	<i>Leverage</i>	<i>ROA</i>
<i>Mean</i>	0.037144	3.052804	0.593587	0.857963	0.039852
<i>Median</i>	0.015826	2.990264	0.611111	0.629718	0.035526
<i>Maximum</i>	5.031684	8.262208	1.000000	5.329931	0.205466
<i>Minimum</i>	-9.168464	-8.217023	0.222222	-7.73165	-0.275602
<i>Std. Dev.</i>	0.925598	2.151967	0.185957	1.275564	0.061359
<i>Observations</i>	149	149	149	149	149

Source: Processed from EViews 13 Output, 2026

Financial Performance (ROA)

Financial performance, measured by Return on Assets (ROA), has a minimum value of -0.276, recorded by PT Waskita Beton Precast Tbk (WBSP) in 2024, and a maximum value of 0.205, achieved by PT Ifishdeco Tbk (IFSH) in 2023. The mean value is 0.040, while the standard deviation is 0.061. Since the standard deviation exceeds the mean, the data indicate relatively high variation in financial performance among the sampled companies.

Green Accounting

Green accounting has a minimum value of -9.168, observed at PT Pelat Timah Nusantara Tbk (NIKL) in 2024, and a maximum value of 5.032, recorded by PT Indopoly Swakarsa Industry Tbk (IPOL) in 2023. The mean value is 0.037, whereas the standard deviation is 0.926. The substantially higher standard deviation compared to the mean indicates considerable variation in green accounting practices across the companies.

Intellectual Capital

Intellectual capital records a minimum value of -8.217 at PT Waskita Beton Precast Tbk (WBSP) in 2024 and a maximum value of 8.262 at PT Central Omega Resources Tbk (DKFT) in 2024. The mean and standard deviation are 3.053 and 2.152, respectively. Since the mean is greater than the standard deviation, the distribution of intellectual capital is relatively homogeneous, indicating that most companies have values close to the sample average.

Carbon Emission Disclosure (CED)

Carbon emission disclosure has a minimum value of 0.222, reported by PT Central Omega Resources Tbk (DKFT) in 2022, and a maximum value of 1.000, achieved by PT Archi Indonesia Tbk (ARCI) in 2022. The mean value is 0.594, while the standard deviation is 0.186. The mean exceeding the standard deviation suggests relatively low dispersion, indicating that most companies disclose carbon emission information at levels close to the sample average.

Leverage

Leverage has a minimum value of -7.732, recorded by PT Waskita Beton Precast Tbk (WBSP) in 2023, and a maximum value of 5.330, observed at PT Indal Aluminium Industry Tbk (INAI) in 2024. The mean value is 0.858, whereas the standard deviation is 1.276. Since



the standard deviation is higher than the mean, leverage exhibits substantial variation, reflecting considerable differences in the capital structures of the sampled companies.

2. Classical Assumption Test

a. Normality Test

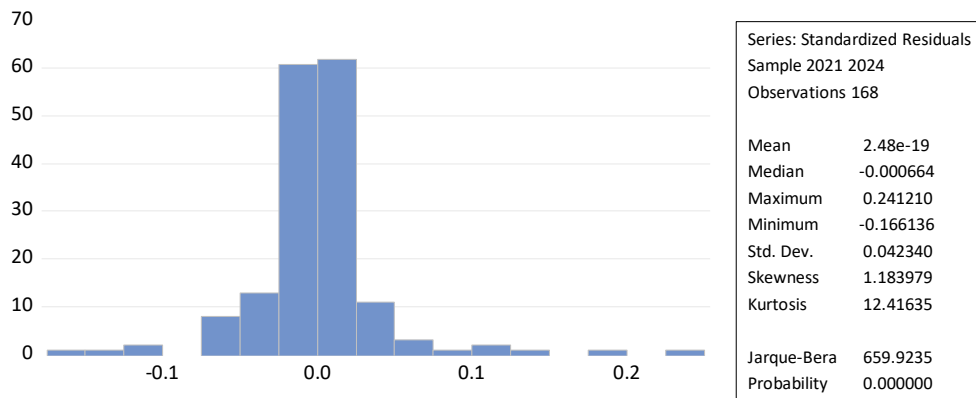


Figure 2. Normality Test Results Before Outlier Removal

Source: Processed from EViews 13 Output, 2026

The normality test yielded a Jarque-Bera statistic with a probability value of 0.0000, indicating that the data in this study does not follow a normal distribution. When data does not conform to a normal distribution, the presence of outliers may need to be considered. Outliers refer to data points that exhibit significant deviations from the rest of the observations (Ghozali, 2021). In this study, 19 extreme data points were excluded using the Z-Score method, a statistical technique that identifies outliers by quantifying the distance of a data point from the mean in terms of standard deviations.

Referring to the image above, the results of the normality test, conducted after removing outliers, reveal a Jarque-Bera probability value of 0.305150, which exceeds the 0.05 threshold. Consequently, it can be inferred that the data employed in this study follows a normal distribution.

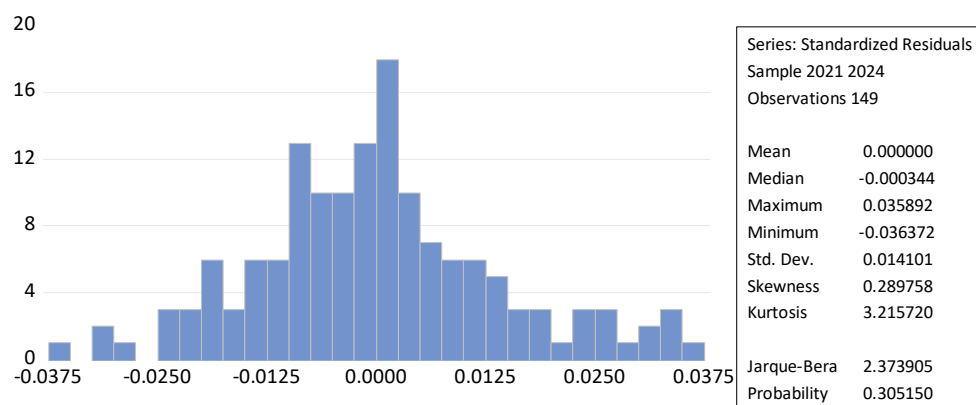


Figure 3. Normality Test Results After Outlier Removal

Source: Processed from EViews 13 Output, 2026



b. Heteroscedasticity Test

The heteroskedasticity test is conducted to assess whether the residuals in the regression model exhibit constant variance (homoskedasticity) or varying variance across observations (heteroskedasticity). A regression model is considered ideal when it meets the homoskedasticity assumption, where the error variance remains consistent across all data points.

In this study, the Glejser test was applied by regressing the absolute values of the residuals against the independent variables to detect any variance inconsistencies. The decision rule is based on the probability values: if the significance level is greater than 0.05, the model is considered free of heteroskedasticity. Conversely, if the significance level is less than 0.05, heteroskedasticity is detected.

Table 4. Multicollinearity Test Results

Dependent Variable: ABS_RES				
Method: Panel EGLS (Cross-section random effects)				
Periods included: 4				
Total panel (unbalanced) observations: 149				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.015386	0.004888	3.147581	0.0021
<i>Green Accounting</i>	0.000347	0.000696	0.498822	0.6190
<i>Intellectual Capital</i>	0.000282	0.000453	0.621617	0.5356
<i>CED</i>	-0.008275	0.007053	-1.173339	0.2433
<i>Leverage</i>	-0.000812	0.001477	-0.549725	0.5837

Source: Processed from EViews 13 Output, 2026

The results from the Glejser test indicate that all the independent variables have probability values greater than 0.05. Therefore, it can be concluded that there is no heteroskedasticity in the regression model.

c. Autocorrelation Test

The autocorrelation test is performed to assess whether there is a correlation within a series of observations, either organized by time (time series data) or by objects (cross-sectional data), in the context of linear regression analysis. To evaluate autocorrelation, the Durbin-Watson statistic is used, and the result is compared against the tabulated values. According to Napitupulu et al. (2021), the decision rule for interpreting the Durbin-Watson test (DW test) is as follows:

Table 5. Decision Criteria for the Durbin–Watson Test

If	Decision
$DW < DL$	Positive autocorrelation is present
$4-DL < DW$	Negative autocorrelation is present
$DL \leq DW \leq DU$ or $(4-DU)$	No conclusion can be drawn
$DU < DW < 4 - DL$	No autocorrelation is present

Source: Napitupulu (2021: 142)



Description:

D: Durbin-Watson (DW)

DU: Durbin-Watson Upper (upper limit of DW)

DL: Durbin-Watson Lower (lower limit of DW)

Table 6. Autocorrelation Test Results

N	K	DL	DU	DW	4-DU	4-DL
149	5	1.6775	1,7876	2.0428	2.3225	2.2124

Source: Processed from EViews 13 Output, 2026

Based on the autocorrelation test results using the Durbin-Watson (DW) method, the DW value for the random effect model is 1.7955. This value falls within the specified range, between the upper limit (DU) and the lower limit (4-DL), with the interval of $1.7876 \leq 2.0428 \leq 2.2124$. Therefore, it can be concluded that the model does not exhibit autocorrelation.

d. Multicollinearity Test

The multicollinearity test is performed to assess whether there is a strong correlation between independent variables in a regression model. A good regression model should not show high correlations among the independent variables. According to Ghazali (2018), if the correlation value is less than 0.80, the model is considered free from multicollinearity.

Table 7. Multicollinearity Test Results

Dependent Variable: Financial Performance				
Cross-sections included: 41				
Total panel (unbalanced) observations: 149				
	GrA	IC	CED	Lev
GrA	1.000000	-0.012046	0.028176	-0.039350
IC	-0.012046	1.000000	-0.134392	0.208039
CED	0.028176	-0.134392	1.000000	-0.110391
Lev	-0.039350	0.208039	-0.110391	1.000000

Source: Processed from EViews 13 Output, 2026

Based on Table 7, the correlation values between the independent variables are all below 0.80. Therefore, it can be concluded that the regression model in this study does not suffer from multicollinearity.

3. Panel Data Regression Model Analysis

Panel data regression analysis was used to assess the impact of Green Accounting (GrA), Intellectual Capital (IC), Carbon Emission Disclosure (CED), and Leverage (Lev) on financial performance, measured by Return on Assets (ROA). Based on the estimation results, the panel regression equation is as follows:

$$ROA = 0.017984 + 0.002955_{GrA} + 0.016374_{IC} - 0.000401_{CED} - 0.032622_{Lev} + e$$

The results show that green accounting and intellectual capital have a positive influence on financial performance, whereas carbon emission disclosure and leverage have negative effects. Specifically, green accounting has the most significant positive impact, while leverage contributes the most to decreasing performance.



4. F-Test (Model Feasibility Test)

The F-test is employed to evaluate the validity of the sample regression model in predicting actual values, also referred to as the goodness of fit. It assesses whether the independent variables effectively explain the variation in the dependent variable and determines whether the regression model is appropriate (Ghozali, 2021). As shown in Table 8, the Prob(F-statistic) value is 0.0000.

Table 8. F-Test Results

<i>F-statistic</i>	42.39377
<i>Prob(F-statistic)</i>	0.000000

Source: Processed from EViews 13 Output, 2026

The F-test results indicate that the Prob(F-statistic) value is 0.0000, which is below the 0.05 threshold. This suggests that green accounting, intellectual capital, carbon emission disclosure, and leverage have a significant impact on financial performance.

5. Coefficient Determination Test (R^2)

Table 9. Coefficient of Determination (R^2) Results

<i>Adjusted R-squared</i>	0.924847
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Source: Processed from EViews 13 Output, 2026

The coefficient of determination was assessed using the Adjusted R-squared value to evaluate the explanatory power of the independent variables on financial performance. Based on the table above, the Adjusted R-squared value is 0.924847, indicating that 92.5% of the variation in financial performance can be explained by the independent variables included in this study. The remaining 7.5% is attributable to other factors outside the scope of this research.

6. Hypothesis Testing (t-Test)

The final test in this study is the significance test of independent variables using the t-test to assess the impact of each independent variable (green accounting, intellectual capital, carbon emission disclosure, and leverage) on the dependent variable. If the p-value is ≤ 0.05 , then the alternative hypothesis (H_a) is accepted, indicating a significant effect.

Table 10. t-Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.017984	0.012420	1.447979	0.1506
<i>Green Accounting</i>	0.002955	0.001769	1.670370	0.0979
<i>Intellectual Capital</i>	0.016374	0.001152	14.21783	0.0000
<i>CED</i>	-0.000401	0.017919	-0.022398	0.9822
<i>Leverage</i>	-0.032622	0.003754	-8.690827	0.0000

Source: Processed from EViews 13 Output, 2026

Based on the hypothesis testing results, not all independent variables have a significant effect on financial performance. Green accounting has a positive coefficient of 0.003 with a



probability value of 0.098, which exceeds the 0.05 significance level; therefore, H₁ is rejected. Intellectual capital has a positive coefficient of 0.016 with a probability value of 0.000, indicating a significant positive effect on financial performance; thus, H₂ is accepted. Carbon emission disclosure has a negative coefficient of -0.000 with a probability value of 0.982, indicating no significant effect; therefore, H₃ is rejected. Lastly, leverage has a negative coefficient of -0.033 with a probability value of 0.000, indicating a significant negative effect on financial performance; thus, H₄ is rejected. These findings suggest that only intellectual capital and leverage significantly influence financial performance, whereas green accounting and carbon emission disclosure do not.

DISCUSSION

Effect of Green Accounting on Financial Performance

The first hypothesis proposed that green accounting has an effect on financial performance, measured by Return on Assets (ROA). Based on the hypothesis testing results, the probability value is 0.098, which is higher than the 0.05 significance level, indicating that the relationship between green accounting and financial performance is not statistically significant. Furthermore, the regression coefficient is 0.003, with a t-statistic of 1.670. These findings indicate that green accounting does not have a significant effect on financial performance. Thus, H₁ is rejected in this study. This finding is consistent with the research of Angelina & Nursasi (2021), who also found that green accounting does not significantly influence the financial performance of companies. This suggests that environmental accounting practices in manufacturing companies have yet to produce a direct improvement in profitability, likely because these companies still perceive environmental costs as a mere operational expenditure rather than a value-creating strategy.

This result can be explained through legitimacy theory, which posits that companies engage in activities that are perceived as acceptable by society and stakeholders in order to gain support and recognition. In this study, although companies reported and disclosed environmental costs, these activities are viewed more as symbolic compliance with environmental standards rather than as a strategic business move that directly improves financial performance. According to legitimacy theory, the environmental management recorded as environmental costs helps to strengthen the company's legitimacy in the eyes of the public, regulators, and consumers, thus improving reputation and corporate image. The trust derived from this legitimacy may drive short-term support, such as regulatory compliance and public acceptance, but its financial benefits are not immediately reflected in the company's financial performance during the same reporting period.

However, this study does not align with research conducted by Safitri et al. (2025), which found that green accounting has a positive and significant effect on the financial performance of companies in the renewable energy sector. Their research suggested that environmental expenditures and disclosures could improve a company's image and stakeholder trust, which in turn encourages consumer interest and increases profitability, particularly Return on Assets (ROA). In contrast, this study found no such effect, as green accounting practices in the sampled mining companies are still viewed primarily as regulatory compliance rather than a business strategy that directly generates economic value.



Effect of Intellectual Capital on Financial Performance

The hypothesis in this study proposed that intellectual capital has a positive effect on financial performance, measured by Return on Assets (ROA). The hypothesis testing results show a probability value of 0.000, which is below the 0.05 significance level, indicating a statistically significant relationship. The regression coefficient is 0.016, with a t-statistic of 14.218, demonstrating that intellectual capital has a significant positive effect on financial performance. Based on these findings, H_2 is rejected, suggesting that intellectual capital does not have a significant effect on financial performance. This outcome aligns with the research of Rosella & Nugroho (2023), which found that intellectual capital, particularly human capital, did not influence financial performance as measured by ROA. The findings indicate that the value added from allocating resources to labor has not yet led to a direct improvement in financial performance.

These results can be explained through Resource-Based Theory (RBT), which posits that a company's competitive advantage is determined by its ability to manage and optimize resources, including intellectual capital. While intellectual capital includes human capital, organizational systems, and relationships, it does not automatically improve financial performance unless effectively utilized. In this study, the companies' knowledge-based resources did not convert into significant value in the short term. RBT suggests that resources must be leveraged through managerial capabilities and strategic alignment to create superior performance. Thus, intellectual capital, if not effectively integrated into decision-making and operations, does not contribute directly to profitability.

However, the findings of this study contrast with Kusuma & Suwandi (2022), who emphasized intellectual capital as a strategic intangible asset that enhances competitiveness. Their research suggested that managing knowledge, human resources, and organizational systems could lead to value creation, improving operational efficiency and profitability. This contrasts with the current study, where intellectual capital showed no significant effect on financial performance. Additionally, Ramadhan & Indarti (2025) argue that managing internal knowledge and competencies contributes to increased productivity and profitability. In this study, however, these elements were not fully realized, which may explain why intellectual capital did not affect financial performance in the mining sector companies.

Effect of Carbon Emission Disclosure on Financial Performance

The hypothesis in this study proposed that carbon emission disclosure has a negative effect on financial performance, measured by Return on Assets (ROA). However, the hypothesis testing results show a probability value of 0.982, which exceeds the 0.05 significance level, indicating that the relationship is not statistically significant. The regression coefficient is -0.000, with a t-statistic of -0.022, suggesting that carbon emission disclosure does not have a significant effect on financial performance. Therefore, the third hypothesis is rejected, indicating that carbon emission disclosure is not a determining factor in improving or reducing the financial performance of basic materials sector companies during the 2021–2024 observation period. Therefore, the fourth hypothesis is rejected, indicating that although leverage has a statistically significant effect, its influence on financial performance is negative rather than positive. These findings suggest that higher leverage tends to reduce the financial performance of basic materials sector companies during the 2021–2024 observation period.



This disclosure is part of sustainability reporting practices, reflecting the company's transparency in managing environmental impacts from its operations. However, an increase in the level of carbon emission disclosure does not necessarily lead to an improvement in financial performance. In some cases, it correlates with a decline in financial performance. According to legitimacy theory, carbon emission disclosure can be understood as a company's effort to fulfill social responsibilities and align with societal norms. This practice is expected to enhance the company's public image and support operational continuity. However, in the short term, the financial benefits of these efforts may not be immediately realized.

These findings are consistent with Pradnyawati & Werastuti (2024), who suggest that carbon emission disclosure incurs additional costs, such as measurement, reporting, and managing environmental impacts. These costs can reduce operational efficiency, negatively affecting financial performance in the short term. Therefore, carbon emission disclosure may not provide immediate financial benefits, especially when companies are still in the early stages of implementing sustainability practices. The results also contrast with previous studies, such as those by Maryanti et al. (2025) and Trisniasari & Sofie (2026), which found a positive relationship between carbon emission disclosure and financial performance. However, this study's findings align with Marlina & Herawaty (2024), Yuliandhari & Ramadhanty (2024), and Basri & Husnaini (2025), which show a significant negative effect on financial performance. These differences suggest that the impact of carbon emission disclosure on financial performance is contextual, influenced by industry sector, company characteristics, and the stage of sustainability policy implementation.

Effect of Leverage on Financial Performance

The hypothesis in this study proposed that leverage has a positive effect on financial performance, measured by Return on Assets (ROA). However, the hypothesis testing results show a probability value of 0.000, which is below the 0.05 significance level, indicating a statistically significant relationship. The regression coefficient is -0.033, with a t-statistic of -8.691, demonstrating that leverage has a significant negative effect on financial performance. Therefore, the proposed hypothesis is rejected.

Table 11. Supporting Evidence for the Fourth Finding

Category	Frequency	Average ROA
Low	59	0,055
Moderate	76	0,038
High	14	-0,013

Source: Processed by the Author, 2026

Additional analysis was conducted by classifying the Debt-to-Equity Ratio (DER) into three categories: low ($DER \leq 0.5$), moderate ($0.5 < DER < 1.5$), and high ($DER > 2$) (Kalvankar, 2026). The results show that the average Return on Assets (ROA) declined as leverage increased, indicating that greater reliance on debt financing has not improved corporate profitability. These findings suggest that the benefits of debt, including the tax shield, are insufficient to offset higher interest expenses and financing risks, thereby reinforcing the regression results that leverage negatively affects financial performance.



These findings are supported by data from the Financial Services Authority (Otoritas Jasa Keuangan—OJK), which indicate a continued increase in bank lending to the mining sector during the observation period. Although credit quality remained relatively sound, financing risk persisted. Higher debt levels increased interest expenses and repayment obligations, requiring companies to allocate a larger proportion of earnings to creditors and reducing their ability to generate profits from corporate assets. The findings do not fully support the trade-off theory, which argues that debt financing enhances firm value through tax shield benefits when maintained at an optimal level. Instead, the results are consistent with those article reported by Sari & Meidiaswati (2025) and Amalia (2021), while contradicting the findings of Aden & Idayati (2023) and Az-Zahra & Yuniningsih (2025), who reported a significant positive effect of leverage on financial performance.

CONCLUSION

Based on the research results on the effects of green accounting, intellectual capital, carbon emission disclosure and leverage on financial performance, the following conclusions can be drawn:

1. Green accounting was found to have no significant effect on financial performance, as measured by Return on Assets (ROA). Therefore, the first hypothesis was rejected. These findings indicate that the implementation of green accounting has not directly improved corporate profitability, as environmental initiatives are primarily compliance-oriented and involve substantial implementation costs.
2. Intellectual capital was found to have a significant positive effect on financial performance (ROA). Therefore, the second hypothesis was accepted. This finding suggests that effective utilization of knowledge-based resources, employee competencies, and organizational capabilities enhances value creation and improves the company's ability to generate profits.
3. Carbon emission disclosure (CED) was found to have no significant effect on financial performance (ROA). Therefore, the third hypothesis was rejected. This result indicates that carbon emission disclosure has not become a key determinant of corporate profitability, as its implementation is largely intended to fulfill regulatory requirements rather than to generate immediate financial benefits.
4. Leverage was found to have a significant negative effect on financial performance (ROA). Therefore, the fourth hypothesis was rejected. This finding indicates that higher reliance on debt financing reduces corporate profitability because the benefits of debt, including tax shields, are insufficient to offset interest expenses and financing risks, thereby weakening financial performance.

BIBLIOGRAPHY

- Acuña-Opazo, C., & González, O. C. (2021). The Impacts of Intellectual Capital on Financial Performance and Value-Added of The Production Evidence from Chile. *Journal of Economics, Finance and Administrative Science*, 26(51), 127–142.
<https://doi.org/10.1108/JEFAS-08-2019-0178>
- Aden, A. S., & Idayati, F. (2023). Pengaruh Likuiditas, Leverage, dan Aktivitas terhadap Kinerja Keuangan PT Asuransi Jasa Tania Tbk. *Jurnal Ilmu Dan Riset Akuntansi*, 12(6), 1–17.
- Adnyana, I. W. P., Adiputra, I. M. P., & Musmini, L. S. (2024). Pengaruh Green Accounting, Profitabilitas dan Corporate Social Responsibility terhadap Sustainable Development Goals dengan Ukuran Perusahaan sebagai Variabel Moderasi. *Ekuitas: Jurnal*



- Pendidikan Ekonomi*, 12(2), 288–301. <https://doi.org/10.23887/ekuitas.v12i2.86997>
- Amalia, A. N. (2021). Pengaruh Ukuran Perusahaan, Leverage, dan Struktur Modal Terhadap Kinerja Keuangan. *Jurnal Ilmu Riset Dan Manajemen*, 10(5), 1–17.
- Amira, M. P., Ermaya, H. N. L., & Miftah, M. (2024). Faktor-Faktor yang Mempengaruhi Carbon Emission Disclosure. *Indonesian Journal of Auditing & Accounting*, 1(2), 21–41.
- Angelina, M., & Nursasi, E. (2021). Pengaruh Penerapan Green Accounting dan Kinerja Lingkungan terhadap Kinerja Keuangan Perusahaan. *Jurnal Manajemen Dirgantara*, 14(2), 211–224.
- Arifianti, N. P., & Widianingsih, L. P. (2023). Kualitas Pengungkapan SDGs: Apakah Berpengaruh terhadap Kinerja Keuangan Perusahaan Sektor Energi dan Bahan Baku di Indonesia? *Jurnal Reviu Akuntansi Dan Keuangan*, 13(2), 269–288. <https://doi.org/10.22219/jrak.v13i2.26629>
- Aristiyanti, N., & Sisdiyanto, E. (2024). Peran Green Accounting dalam Mendorong Praktik Bisnis Ramah Lingkungan. *JMA (Jurnal Media Akademik)*, 2(11), 2–12.
- Aslamiyah, F., Windarti, R. A., Farleni, S., & Sanjaya, V. F. (2024). Pendekatan Resource-Based View (RBV) dalam Manajemen Bisnis: Strategi untuk Keunggulan Kompetitif yang Berkelanjutan. *Al-A'mal: Jurnal Manajemen Bisnis Syariah*, 1(2), 176–183.
- Az-Zahra, P. J., & Yuniningsih. (2025). Pengaruh Leverage, Aktivitas, Likuiditas terhadap Kinerja Keuangan dengan Ukuran Perusahaan sebagai Moderasi. *JAMBURA ECONOMIC EDUCATION JOURNAL*, 7(4), 1329–1342.
- Basri, D. I., & Husnaini, W. (2025). Pengaruh Carbon Accounting Terhadap Kinerja Keuangan Perusahaan Pertambangan di Indonesia. *Jambura Accounting Review*, 6(2), 488–501.
- Carolina, I. E. (2024). Faktor–Faktor yang Memengaruhi Intellectual Capital Disclosure pada Perusahaan Perbankan Non Bumn di BEI. *Jurnal Ilmu Dan Riset Akuntansi*, 13(4), 1–24.
- Christiani, A., & Rahmadhani, S. (2024). Pengaruh Kinerja Lingkungan, Biaya Lingkungan terhadap Kinerja Keuangan dan CSR Sebagai Variabel Mediasi. *Journal of Business and Economics Research (JBE)*, 5(3), 444–451. <https://doi.org/10.47065/jbe.v5i3.6078>
- Daruwala, Z. (2023). Influence of Financial Leverage on Corporate Profitability: Does it Really Matter ? *International Journal of Economics and Financial Issues*, 13(4), 37–46.
- Fashlih, M. M., Aulia, R., Hafifah, F., & Zahara, A. (2025). Dampak Aktivitas Tambang Terhadap Bentang Alam dan Geomorfologi Kalimantan. *Pediaqu : Jurnal Pendidikan Sosial Dan Humaniora*, 4(2), 4258–4263.
- Ferlita, S. A., Sudarti, & Yushardi. (2023). Analisis Efisiensi Kendaraan Listrik sebagai Salah Satu Transportasi Ramah Lingkungan Pengurang Emisi Karbon. *OPTIKA: Jurnal Pendidikan Fisika*, 7(2), 356–365.
- Gani, P. (2022). Pengaruh Intellectual Capital Terhadap Kinerja Keuangan dan Nilai Perusahaan. *Owner: Riset & Jurnal Akuntansi*, 6(1), 518–529.
- Ghozali, I. (2018). *Aplikasi Analisis Multivariate Dengan Program IBM SPSS 25*. Badan Penerbit Universitas Diponegoro.
- Ghozali, I. (2021). *Aplikasi Analisis Multivariate dengan Program IBM SPSS 26* (Edisi 10). Badan Penerbit Universitas Diponegoro.
- Hafidz, S. A., & Artiningsih, A. (2025). Pengaruh Green Accounting Terhadap Kinerja Perusahaan Dengan Kinerja Lingkungan Sebagai Variabel Mediasi. *ABIS: Accounting and Business Information Systems Journal*, 13(4), 317–348.
- Hallauw, A., & Widyawati, D. (2021). Pengaruh Intellectual Capital, Return On Assets dan



- Current Ratio Terhadap Nilai Perusahaan. *Jurnal Ilmu Dan Riset Akuntansi : Volume 10, Nomor 2, Februari 2021, 10(2)*, 1–19.
- Handayani, P., & Rochmatullah, M. R. (2024). Determinan Kinerja Keuangan pada Perusahaan Kontruksi Bangunan (Studi pada Perusahaan Sub Sektor Konstruksi Bangunan yang Terdaftar di BEI Selama Periode 2019-2022). *SEIKO : Journal of Management & Business*, 7(1), 825–837. www.idx.co.id.
- Hendrawati, E., & Sheryn, W. (2020). *Pengaruh Corporate Social Responsibility dan Kinerja Lingkungan Terhadap Nilai Perusahaan*. 2(2), 87–108.
- Kalvankar, R. (2026). *What is Debt to Equity Ratio?* 5paisa Capital Ltd. https://www.5paisa.com/stock-market-guide/stock-share-market/what-is-debt-to-equity-ratio?utm_source=chatgpt.com
- Kasmir. (2019). *Analisis Laporan Keuangan*. PT Raja Grafindo Persada.
- Kencana, D. T., Antika, D. Y., & Rizki, M. F. (2025). Pengaruh Profitabilitas, Leverage, dan Ukuran Perusahaan Terhadap Pengungkapan Corporate Social Responsibility. *Jurnal Technobiz*, 8(2), 119–128.
- Krisnawati, H. (2022). Analisis Kinerja Keuangan pada Expedisi Lancar Group. *Jurnal Ilmiah Komputerisasi Akuntansi*, 13(1), 162–169.
- Kusuma, A. K. I., & Suwandi. (2022). Pengaruh Intellectual Capital terhadap Kinerja Keuangan dengan Competitive Advantage sebagai Variabel Moderating. *Journal of Culture Accounting and Auditing Journal*, 1(1), 168–182.
- Kusumaningtyas, D., & Aris, M. A. (2026). Pengaruh Green Accounting, Intellectual Capital, dan Leverage Terhadap Kinerja Keuangan yang Dimoderasi oleh Corporate Social Responsibility pada Perusahaan Pertambangan di Bursa Efek Indonesia Periode 2022–2024. *Management Studies and Entrepreneurship Journal*, 7(3), 1981–1998.
- Lestar, W. P. D., & Riduwan, A. (2025). Pengaruh Profitabilitas, Leverage, dan Pertumbuhan Perusahaan terhadap Nilai Perusahaan. *Jurnal Ilmu Dan Riset Akuntansi*, 14(1), 1–18.
- Lestari, W. B., Hadisantoso, E., & Asni, N. (2025). Pengaruh Green Accounting dan Kinerja Lingkungan Terhadap Kinerja Keuangan Perusahaan Pertambangan yang Terdaftar di Bursa Efek Indonesia. *Jurnal Ilmiah Akuntansi Keuangan Dan Bisnis*, 6(1).
- Lubis, R. J., Hutapea, T., Siagian, A., & Purba, B. (2024). Pengaruh Penerapan Green Accounting dan Kinerja Lingkungan Terhadap Kinerja Keuangan Perusahaan. *In Search*, 2(1), 60–78. <https://doi.org/10.37278/insearch.v22i2.802>
- Ma'wa, A., & Rahmawati, I. P. (2023). Determinan Pengungkapan Intellectual Capital pada Perguruan Tinggi. *Jurnal Reviu Akuntansi Dan Keuangan*, 13(1), 35–52. <https://doi.org/10.22219/jrak.v13i1.21844>
- Maharani, P. D., & Dewi, P. P. R. A. (2025). Pengaruh Leverage, Ukuran Perusahaan dan Sales Growth terhadap Kinerja Keuangan Perusahaan Sektor Property dan Real Estate. *Jurnal Ilmiah MEA (Manajemen, Ekonomi, Dan Akuntansi)*, 9(3), 2863–2878.
- Marlina, D., & Herawaty, V. (2024). Pengaruh Pengungkapan Emisi Karbon, Kinerja Perusahaan, Eco- Efficiency terhadap Nilai Perusahaan Dimoderasi Kinerja Lingkungan. *Jurnal Kajian Ekonomi & Bisnis Islam*, 5(8), 3785–3807.
- Maryanti, E., Biduri, S., & Sari, H. M. K. (2025). Pengaruh Carbon Emission Disclosure dan Green Intellectual Capital terhadap Kinerja Keuangan dan Nilai Perusahaan. *Owner: Riset & Jurnal Akuntansi*, 9(1), 290–302. <https://doi.org/https://doi.org/10.33395/owner.v9i1.2484>
- Mawarda, R., Sari, H. M. K., & Sriyono. (2025). Indeks Harga Saham Gabungan (IHSG) Ikut Berperang di Pasar Dunia (Studi Kasus Konflik Iran-Israel). *Jurnal Manajemen Terapan Dan Keuangan (Mankeu)*, 14(2), 608–623.



- Mustafani, M., Chasan Azari, & Setya Prihatiningtyas. (2022). Pengaruh Kinerja Keuangan dan Modal Intelektual terhadap Nilai Perusahaan: Studi pada Perusahaan Basic Industry and Chemicals yang Terdaftar di Bursa Efek Indonesia Periode 2017-2019. *Journal Of Accounting and Business*, 24(1), 74–82. <https://doi.org/10.30649/jab.v1i2.77>
- Nadila, E., Saputra, J. A. A., & Astuti, S. Y. (2025). Pengaruh Green Accounting, CSR, Kinerja Lingkungan dan Ukuran Perusahaan Terhadap Kinerja Keuangan. *JAKUMA : Jurnal Akuntansi Dan Manajemen Keuangan*, 6(1), 38–57. <https://doi.org/https://doi.org/10.31967/jakuma.v6i1.1496>
- Napitupulu, R. B., Simanjuntak, T. P., Hutabarat, L., Damanik, H., Harianja, H., Sirait, R. T. M., & Ria, C. E. (2021). *Penelitian Bisnis : Teknik dan Analisa Data dengan SPSS - STATA - EVIEWS* (1st ed.). Madenatera.
- Nugroho, W., Silaen, M., Parhusip, A., & Al-Amin, A.-A. (2024). Optimizing Return on Asset (ROA) and Return on Equity (ROA) to Increase Banking Competitiveness on The Stock Exchange. *COSMOS: Jurnal Ilmu Pendidikan, Ekonomi Dan Teknologi*, 1(4), 184–198.
- Oktaviana, M. M., & Choir, F. Al. (2024). Pengaruh Debt To Capital Ratio dan Asset Growth Terhadap Income Smoothing Level pada Perusahaan Perbankan Yang Terdaftar di BEI Tahun 2017-2022. *JORAPI : Journal of Research and Publication Innovation Vol.*, 2(4), 1622–1632.
- Pradnyawati, I. A. K., & Werastuti, D. N. S. (2024). Pengaruh Pengungkapan Emisi Karbon, Biaya Lingkungan, dan Good Corporate Governance terhadap Nilai Perusahaan. *VJR*, 13(1), 15–26.
- Pratama, A. R. Y., Prapanca, D., & Sriyono. (2024). Return on Asset (ROA), Return on Investment (ROI), Earning Per Share (EPS) terhadap Harga Saham (Studi Kasus Perusahaan Subsektor Otomotif dan Komponen yang Terdaftar di Bursa Efek Indonesia Tahun 2020-2023). *Management Studies and Entrepreneurship Journal*, 5(2), 5755–5769.
- Priamita, R., Sirait, D. A. P., Sebayang, M. M. B., & Sagala, I. C. (2025). The Influence of Green Accounting, Intellectual Capital, and Firm Size on The Financial Performance of Mining Companies Listed on The Indonesia Stock Exchange (IDX) from 2022 to 2024. *COSTING: Journal of Economics, Business, and Accounting*, 8(4), 825–839.
- Pulungan, M. A. A. G., Octalin, I. S., & Kusumastuti, R. (2023). Pengukuran Kinerja Keuangan dengan Menggunakan Analisis Rasio Keuangan sebagai Dasar Penilaian pada Kinerja Keuangan PT Telkom Indonesia Tbk (Periode 2020-2022). *Jurnal Ekonomi, Bisnis Dan Manajemen*, 2(2), 248–262. <https://doi.org/https://doi.org/10.58192/ebismen.v2i2.835>
- Puspita, G., & Wahyudi, T. (2021). Modal Intelektual (Intellectual Capital) dan Nilai Perusahaan Pada Industri Manufaktur. *Owner: Riset & Jurnal Akuntansi*, 5(5), 295–306.
- Putra, B., & Sisdianto, E. (2024). Penerapan Green Accounting dalam Mendukung Keberlanjutan Perusahaan di Indonesia. *Jurnal Medi*, 2(12), 1–10. <https://doi.org/10.62281>
- Rahayu, R. A., Andini, N. T., Inayah, N. L., & Setyarini, Y. (2025). Dampak Kinerja Keuangan Akibat Praktik Keberlanjutan Lingkungan. *Jurnal Transparan*, 17(2).
- Rahmatania, A., Wardhani, R. S., & Sumiyati. (2024). Pengaruh Carbon Emission Disclosure dan Ukuran Perusahaan Terhadap Kinerja Perusahaan Manufaktur Yang Terdaftar di BEI Tahun 2021-2023. *Indo-Fintech Intellectuals: Journal of Economics and Business*, 4(3), 1047–1061.
- Ramadhan, T. R., & Indarti, M. G. K. (2025). Optimalisasi Modal Manusia, Struktural dan



- Relasional dalam Meningkatkan Kinerja Keuangan : Studi pada Perusahaan Manufaktur Syariah. *Jurnal Kajian Ilmiah*, 25(2), 113–126.
- Rosella, N., & Nugroho, D. S. (2023). Pengaruh Intellectual Capital, Kepemilikan Manajerial dan Ukuran Perusahaan Terhadap Kinerja Keuangan Perbankan. *Indonesian Journal of Innovation Multidisipliner Research*, 1(3), 283–294.
- Safitri, C. Y., Wijaya, R. S., & Janudin, S. E. Bin. (2025). Analisis Pengaruh Akuntansi Hijau terhadap Kinerja Keuangan dengan Peran Mediasi Tanggung Jawab Sosial Perusahaan. *Jurnal Ekonomi Dan Bisnis Dharma Andalas*, 27(2), 146–160.
- Sari, N., & Sumiyarsih. (2022). Pengaruh Leverage, Ukuran Perusahaan dan Current Ratio Terhadap Kinerja Keuangan Perusahaan Makanan dan Minuman Yang Terdaftar di Bursa Efek Indonesia (BEI) Periode 2013-2018. *Jurnal Ekonomi Manajemen Dan Akuntansi*, 1(1), 39–54.
- Sari, S. D. K., & Meidiaswati, H. (2025). Pengaruh Leverage, Struktur Kepemilikan, dan Inovasi Terhadap Kinerja Keuangan pada Perusahaan Sektor Infrastruktur, Utilitas, dan Transportasi Periode 2019-2023. *Jurnal Ilmu Manajemen*, 13(1), 39–51.
- Sembiring, E. B., Andrianus Nainggolan, S., Hutasoit, S. A., Saputra, A. W., Johanes, B., Friendssy, H., Simanjuntak, Y., & Murati, F. (2024). Pengaruh Pertambangan Terhadap Lingkungan dan Sosial Masyarakat. *Jurnal Multidisiplin Inovatif*, 8(11), 363–373. <https://an-nur.ac.id/blog/dampak-lingkungan-sosial-dan-ekonomi-pertambangan.html>
- Setiawan, A. F., & Suwaidi, R. A. (2022). Pengaruh Rasio Likuiditas, Aktivitas, dan Leverage Terhadap Profitabilitas dengan Firm Size Sebagai Variabel Moderasi. *BRILIANT: Jurnal Riset Dan Konseptua*, 7(3), 758.
- Sing, V. M., Rengga, A., & Carcia, M. S. M. (2022). Analisis Rasio Keuangan untuk Menilai Kinerja Keuangan pada Puskopdit Swadaya Utama. *Jurnal Projemen UNIPA*, 9(3), 56–68. <https://doi.org/10.59603/projemen.v9i3.40>
- Siregar, B. G., Salman, M., & Lubis, A. (2021). Optimalisasi Struktur Modal dengan Trade Off Theory pada Bank Umum Syariah. *Jurnal Penelitian Ekonomi Akuntansi (JENSI)*, 8(2), 264–278.
- Sugiyono. (2013). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Alfabeta CV.
- Susanti, E., Widiyati, D., & Rosini, I. (2025). Pengaruh SDGs dan Intellectual Capital terhadap Kinerja Keuangan dengan Investasi Hijau sebagai Variabel Moderasi. *FACTORY: Jurnal Industri, Manajemen Dan Rekayasa Sistem Industri*, 4(1), 62–82. <https://doi.org/https://doi.org/10.56211/factory.v4i1.1214>
- Susilawati, E., & Purnomo, A. K. (2023). Pengaruh Leverage dan Pertumbuhan Perusahaan Terhadap Profitabilitas. *Owner: Riset & Jurnal Akuntansi*, 7(2), 955–964. <https://doi.org/https://doi.org/10.33395/owner.v7i2.1417>
- Taufikurahman, M. R., Firdaus, A. H., Ahmad, T., Febriani, D. A., & Permana, A. S. (2023). Dampak Investasi Sektor Pertambangan Terhadap Kinerja Ekonomi Nasional dan Regional. *Institute for Development of Economics and Finance*, 7(7), 1–9. https://indef.or.id/wp-content/uploads/2023/12/072023_pb_mining.pdf
- Trisniasari, A. Z., & Sofie. (2026). Pengaruh Biaya Lingkungan, Pengungkapan Emisi Karbon, dan Green Process Innovation Terhadap Kinerja Keuangan. *Atestasi: Jurnal Ilmiah Akuntansi*, 9(1), 140–150. <https://doi.org/https://doi.org/10.57178/atestasi.v9i1.2266> Atestasi:
- Tuti, R., & Sisdiyanto, E. (2024). The Role of Green Accounting in Improving Energy Efficiency and Waste Management. *JICN: Jurnal Intelek Dan Cendekiawan Nusantara*, 1(5), 8697–8707. <https://jicnusanantara.com/index.php/jicn>
- Utami, A. P., Arumsari, N. R., & Cahyono, B. (2025). Mengembangkan Resource Advantage



- Theory Berbasis Nilai-Nilai Islam. *Jurnal Inovasi Ekonomi Syariah Dan Akuntansi*, 2(5), 11–26. <https://doi.org/https://doi.org/10.61132/jiesa.v2i5.1482> Available
- Wijayani, D. R. (2017). Pengaruh Intellectual Capital Terhadap Kinerja Keuangan Perusahaan Publik di Indonesia (Studi Empiris pada Perusahaan Manufaktur di BEI 2012-2014). *Jurnal Riset Akuntansi Dan Bisnis Airlangga*, 2(1), 97–116. <https://doi.org/10.31093/jraba.v2i1.23>
- William. (2023). Pengaruh Leverage, Likuiditas dan Ukuran Perusahaan Terhadap Profitabilitas (Studi Kasus Pada Sektor Perusahaan Food And Beverage Yang Terdaftar di Bursa Efek Indonesia Periode 2017-2021). *Jurnal Kajian Ilmiah Akuntansi Fakultas Ekonomi UNTAN*, 1(2), 24–41.
- Yadikarsa, K. I., & Ng, S. (2025). The Impact of Board Composition on Firm Value Creation through Carbon Emission Activities. *Atma Jaya Accounting Research (AJAR)*, 8(2), 161–188.
- Yanti, Y. R., & Sofie. (2025). Pengaruh Pengungkapan Emisi Karbon, Biaya Lingkungan, Kepemilikan Saham Publik, dan Struktur Modal Terhadap Kinerja Keuangan Perusahaan. *Economic Reviews Journal*, 4(4), 1428–1439. <https://doi.org/10.56709/mrj.v4i4.862>
- Yuliandhari, W. S., & Ramadhanty, R. A. (2024). Pengaruh Carbon Emission Disclosure, Carbon Performance, dan Green Intellectual Capital terhadap Kinerja Keuangan Perusahaan. *Akuntansi* 45, 5(2), 499–517.