

THE EFFECT OF GREEN ACCOUNTING AND CORPORATE SOCIAL RESPONSIBILITY ON FINANCIAL PERFORMANCE WITH INTELLECTUAL CAPITAL AS A MODERATING VARIABLE

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ABSTRACT

This study aims to examine the effect of green accounting and corporate social responsibility (CSR) on financial performance, with intellectual capital as a moderating variable. This study uses a quantitative approach with secondary data from annual reports and sustainability reports. The sample consists of 35 energy sector companies listed on the Indonesia Stock Exchange during 2022–2024. Financial performance is measured by Return on Assets, green accounting by environmental costs, CSR by the Corporate Social Responsibility Index, and intellectual capital by the Value Added Intellectual Coefficient. Data were analyzed using panel data regression with a Moderated Regression Analysis approach using EViews 13. The results show that green accounting has a positive and significant effect on financial performance, while CSR has no significant effect. Intellectual capital does not moderate the relationship between green accounting or CSR and financial performance and has no significant effect on financial performance. These findings suggest that, in industries with high environmental exposure, environmental costs provide a stronger signal of efficiency and regulatory compliance that is positively valued by the market than long-term social programs. Furthermore, internal knowledge-based capabilities have not yet translated sustainability practices into measurable short-term financial benefits.

Keywords: Green accounting, Corporate social responsibility, Intellectual capital, Financial performance, Energy sector

ABSTRAK

Penelitian ini bertujuan untuk menguji pengaruh green accounting dan *corporate social responsibility* (CSR) terhadap kinerja keuangan dengan intellectual capital sebagai variabel moderasi. Penelitian ini menggunakan pendekatan kuantitatif dengan data sekunder yang diperoleh dari laporan tahunan dan laporan keberlanjutan. Sampel penelitian terdiri atas 35 perusahaan sektor energi yang terdaftar di Bursa Efek Indonesia selama periode 2022–2024. Kinerja keuangan diukur menggunakan *Return on Assets*, green accounting menggunakan biaya lingkungan, CSR menggunakan *Corporate Social Responsibility Index*, dan intellectual capital menggunakan Value Added Intellectual Coefficient. Data dianalisis menggunakan

regresi data panel dengan pendekatan *Moderated Regression Analysis* melalui EViews 13. Hasil penelitian menunjukkan bahwa *green accounting* berpengaruh positif dan signifikan terhadap kinerja keuangan, sedangkan CSR tidak berpengaruh signifikan. *Intellectual capital* tidak memoderasi hubungan *green accounting* maupun CSR terhadap kinerja keuangan dan tidak berpengaruh signifikan terhadap kinerja keuangan. Temuan ini menunjukkan bahwa pada industri dengan paparan lingkungan yang tinggi, biaya lingkungan memberikan sinyal efisiensi dan kepatuhan terhadap regulasi yang lebih kuat dan dinilai positif oleh pasar dibandingkan program sosial jangka panjang. Selain itu, kapabilitas internal berbasis pengetahuan belum mampu mengubah praktik keberlanjutan menjadi manfaat keuangan yang terukur dalam jangka pendek.

Kata kunci: *Green accounting, Corporate social responsibility, Intellectual capital, Kinerja keuangan, Sektor energi*

INTRODUCTION

Sustainable development has become a fundamental pillar in global economic management and modern business practice, shifting companies from being viewed purely as profit-oriented economic entities toward being social entities with responsibilities toward the environment and society (Trisnawati et al., 2022; Sudarminto & Harto, 2023). Pressure from stakeholders, investors, and government increasingly drives companies to integrate social and environmental issues into their business strategy and decision-making processes (Deswanto, 2022). This paradigm shift requires management to reconsider how resources and business risks are governed so that the firm is able to sustain its operations and create value over the long run. Sustainability management also assists companies in identifying non-financial risks such as environmental impacts, social pressure, regulatory change, and the erosion of stakeholder trust, all of which may ultimately affect operating activities and financial condition (Azzahra & Mulyandini, 2025). The adoption of sustainability principles is therefore not merely a form of compliance with social and environmental demands, but part of a broader strategy to improve transparency, efficiency, competitiveness, and business resilience (Widyastuti, 2024). Empirical reviews further indicate that green accounting research has grown rapidly yet remains fragmented in terms of focus, method, and measurement (Dwianika et al., 2024).

At the national level, sustainability commitments have been reinforced through regulation, particularly POJK No. 51/POJK.03/2017 concerning the implementation of sustainable finance for financial services institutions, issuers, and public companies (Otoritas Jasa Keuangan, 2017). The regulation establishes the obligation to prepare sustainability reports as a form of accountability for the economic, social, and environmental consequences of corporate activity, signalling that sustainability disclosure has shifted from a voluntary practice to a mandatory element of corporate reporting (Dupopadana et al., 2024). Indonesia's position at rank 77 of 167 countries in the global SDG index, with a score of 70.22, illustrates that the integration of sustainability into national economic governance is still an ongoing agenda rather than a settled achievement. Green accounting occupies a significant role in supporting transparency and accountability in corporate environmental management, functioning as a structured accounting approach that identifies, measures, and reports environmental costs and benefits (Arifqi & Sisdianto, 2025). Systematic control over environmental costs is theorised to improve operational efficiency and reduce the risk of larger future expenditures arising from pollution, remediation obligations, and regulatory sanctions (Achmar & Susanti, 2025). In parallel, green accounting is argued to strengthen corporate image and increase investor confidence in a firm's sustainability commitment (Afni & Achyani, 2023; Surianti et al., 2025).

Corporate Social Responsibility (CSR) similarly serves as an important instrument supporting sustainable development, reflecting a firm's commitment to operate legally and ethically while contributing to the welfare of employees, government, and local communities (Daniswari, 2024). Prior studies have found that CSR disclosure positively affects financial performance by enhancing reputation, customer loyalty, and investor trust (Astiti, 2024; Rahmawati et al., 2024). Nevertheless, the financial benefit of CSR is conditional: it depends on the quality of implementation, the institutional environment, and the firm's ability to direct social programmes toward issues that are material to its core business (Ma et al., 2023; Velte, 2022). The urgency of examining these relationships in the energy sector is reinforced by national environmental performance data. The PROPER ratings published by the Ministry of Environment and Forestry show that the number of firms rated red rose from 887 (27.7%) in 2021–2022 to 1,313 (29.2%) in 2023–2024, while black-rated firms increased from 2 to 16 companies (Kementerian Lingkungan Hidup, 2022, 2025). The energy sector is closely tied to natural resource extraction, carries high environmental exposure, is capital-intensive, and faces relatively high operating and environmental management costs (Salim et al., 2023; Aryani et al., 2023), which makes it a highly relevant context for testing whether environmental and social practices translate into financial outcomes.

Prior empirical studies on the relationship between green accounting, CSR, and financial performance have nevertheless produced inconsistent findings across sectors and periods. Positive effects have been reported by Sari and Astari (2023), Susanti et al. (2023), and Indrayani et al. (2025), whereas Afni and Achyani (2023) and Amalia and Riyadi (2025) report insignificant effects. Comparable inconsistency characterises the CSR literature, in which differences in proxies, performance measures, industry settings, and observation windows have been identified as sources of divergence (Velte, 2022; Nguyen et al., 2022). A further limitation is that intellectual capital is most often positioned as an independent variable rather than as a moderating capability that explains when sustainability practices generate stronger economic benefits (Ulandari et al., 2025; Palgunadi et al., 2024). Based on this background, this study aims to analyse the effect of green accounting, CSR, and intellectual capital on the financial performance of energy sector companies listed on the Indonesia Stock Exchange during 2022–2024, and to examine the moderating role of intellectual capital in the relationships between green accounting, CSR, and financial performance, using panel data regression with a Moderated Regression Analysis approach.

LITERATURE REVIEW

Stakeholder Theory and Legitimacy Theory

Stakeholder Theory posits that companies are not solely accountable to shareholders but to a broader range of stakeholders, including employees, communities, government, and the environment, whose interests must be considered in corporate strategy and decision-making. Legitimacy Theory complements this perspective by explaining that companies operate within a social contract with society, and must demonstrate that their activities are congruent with societal norms and expectations to maintain their legitimacy and continued license to operate. Both theories provide the conceptual foundation for understanding why companies engage in green accounting and CSR disclosure as mechanisms to secure stakeholder trust and organizational legitimacy, which in turn is theorized to translate into improved financial performance.

Green Accounting

Green accounting is an accounting process that identifies, calculates, assesses, and discloses the various costs associated with a company's environmental management activities

(Masrinda, 2024). In this study, green accounting (variable X1) is measured through the natural logarithm of the environmental costs disclosed in company annual reports and sustainability reports, following the measurement applied by Riyadh et al. in Medianawati and Cahyonowati (2025). Environmental costs include waste management costs, pollution prevention costs, environmental certification costs, environmental CSR expenditure, mine reclamation costs, energy conservation costs, recycling programme costs, and emission control costs.

Corporate Social Responsibility

Corporate Social Responsibility (CSR) reflects a company's commitment to operate ethically while contributing to economic development and improving the quality of life of employees, local communities, and society at large (Daniswari, 2024). In this study, CSR (variable X2) is measured through a Corporate Social Responsibility Index (CSRI) based on 91 disclosure indicators from the Global Reporting Initiative (GRI) G4 standard, scored through content analysis of annual reports and sustainability reports using a binary system, in which an indicator receives a score of one when disclosed and zero when not disclosed (Medianawati & Cahyonowati, 2025).

Intellectual Capital

Intellectual capital is a knowledge-based intangible resource comprising human capital, structural capital, and relational capital, which jointly support the firm's value creation process (Bontis, 1998; Puspita & Wahyudi, 2021). Intellectual capital is regarded as a strategic resource that underpins innovation, organisational adaptation, and sustainable development (Alvino et al., 2021). In this study, intellectual capital (variable Z) is measured using the Value Added Intellectual Coefficient (VAIC) developed by Pulic (1998), which aggregates Value Added Capital Employed (VACA), Value Added Human Capital (VAHU), and Structural Capital Value Added (STVA).

Financial Performance

Financial performance reflects a company's ability to generate profit from its resources and operations over a given period, and serves as a basis for assessing managerial effectiveness and efficiency (Kasmir, 2019). In this study, financial performance (variable Y) is measured using Return on Assets (ROA), which indicates management's effectiveness in generating profit from total company assets.

HYPOTHESIS DEVELOPMENT

Based on the theoretical review above, the conceptual framework of this study illustrates the relationship between green accounting (X1) and corporate social responsibility (X2) as independent variables, intellectual capital (Z) as both an independent and a moderating variable, and financial performance (Y) as the dependent variable, as shown in Figure 1. Integrating environmental costs into the accounting system enables firms to identify expenditures previously hidden within production and general operating costs, and to use that information to evaluate sources of waste, control resource consumption, and formulate environmental policy more efficiently (Arifqi & Sisdiyanto, 2025). Systematic control of environmental costs is expected to raise operational efficiency and reduce exposure to sanctions, litigation, and remediation obligations (Achmar & Susanti, 2025; Trisnawati et al., 2022). Companies with higher quality environmental cost management and disclosure are therefore theorised to achieve greater operational efficiency and reduced environmental risk, translating into improved financial performance (Sari & Astari, 2023; Indrayani et al., 2025). Therefore, the first hypothesis proposed is H1: Green Accounting has a positive effect on Financial

Performance.

CSR implementation that is relevant to stakeholder needs may improve the quality of the firm's relationships with communities, employees, consumers, suppliers, and government, and may generate economic benefits through reputation, customer loyalty, workforce productivity, operational stability, and investor confidence (Costa & Fonseca, 2022; Feng et al., 2022). From the perspective of Legitimacy Theory, socially relevant programmes narrow the gap between the economic benefits obtained by the firm and the social consequences borne by society, which is particularly important for high-impact industries (Kaur & Singh, 2021). Companies with higher quality CSR disclosure are therefore theorised to build stronger stakeholder relationships and enhanced legitimacy, translating into improved financial performance (Astuti, 2024; Rahmawati et al., 2024; Lestari, 2023). Therefore, the second hypothesis proposed is H2: Corporate Social Responsibility has a positive effect on Financial Performance.

Effective management of intellectual capital is expected to improve operational efficiency, decision quality, innovation capability, workforce productivity, and competitiveness (Pulic, 1998; Alvino et al., 2021). Firms with higher intellectual capital are better able to develop technology, refine business processes, respond to market change, and improve product and service quality, all of which support revenue growth, cost control, and asset efficiency (Hulaemah & Mulyasari, 2024; Ulandari et al., 2025). Therefore, the third hypothesis proposed is H3: Intellectual Capital has a positive effect on Financial Performance.

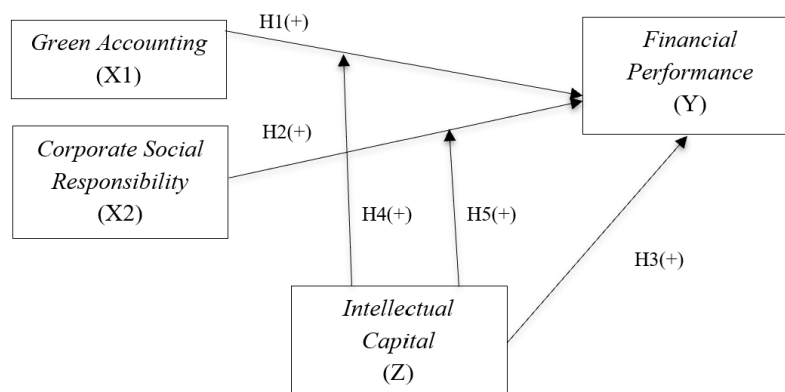


Figure 1. The Theoretical Framework

The implementation of green accounting requires technical capability to identify environmental costs, measure resource use, process emission data, evaluate risk, and present information credibly. Firms with higher intellectual capital are theorised to be more capable of converting environmental information into decisions that improve efficiency and profit, because knowledge resources determine an organisation's capacity to learn, innovate, and adapt to environmental demands (Alvino et al., 2021; Puspita & Wahyudi, 2021). Comparable moderating logic has been examined using business strategy and green intellectual capital as conditioning variables (Palgunadi et al., 2024; Sumayyah et al., 2025). Therefore, the fourth hypothesis proposed is H4: Intellectual Capital moderates the effect of Green Accounting on Financial Performance.

CSR implementation likewise requires internal capability so that programmes do not stop at expenditure or ceremonial activity. Human capital supports the design of social programmes and stakeholder mapping, structural capital provides the procedures, information systems, and evaluation mechanisms that ensure consistency, and relational capital strengthens

the firm's ties with communities, government, consumers, suppliers, and investors (Bontis, 1998; Alvino et al., 2021). Since the financial benefit of CSR depends on implementation quality and its linkage to core activities (Coelho et al., 2023), firms with higher intellectual capital are theorised to convert CSR initiatives into stakeholder trust and financial value more effectively. Therefore, the fifth hypothesis proposed is H5: Intellectual Capital moderates the effect of Corporate Social Responsibility on Financial Performance.

METHOD

This study employed an explanatory quantitative approach using secondary data to empirically test the relationship between green accounting, corporate social responsibility, intellectual capital, and financial performance (Sekaran & Bougie, 2020). The unit of analysis was energy sector companies listed on the Indonesia Stock Exchange (IDX) during the 2022–2024 period, based on the IDX Industrial Classification (IDX-IC), comprising a population of 48 companies. Secondary data were obtained from audited financial statements, annual reports, and sustainability reports accessed through www.idx.co.id and the official websites of the sample companies (Sugiyono, 2022). The sampling technique used was purposive sampling with five criteria applied simultaneously: Companies reporting in foreign currency amounts were converted using the Bank Indonesia middle rate as of 31 December of each observation year. The sample selection process is presented in Table 1.

Table 1. Sample Selection Criteria

No.	Sample Selection Criteria	Eliminated	Firms
	Energy sector companies listed on the IDX during 2022–2024		48
1	Companies not consecutively listed on the IDX throughout 2022–2024	(3)	45
2	Companies not publishing complete audited annual reports and financial statements throughout 2022–2024	(2)	43
3	Companies not presenting the environmental cost data required to measure green accounting	(3)	40
4	Companies without annual and/or sustainability reports enabling CSR measurement based on 91 GRI G4 indicators	(2)	38
5	Companies without complete data to compute ROA and VAIC	(3)	35
Total companies meeting the sample criteria			35
Total observations (35 companies × 3 years)			105

Financial performance was measured by ROA, computed as profit after tax divided by total assets. Green accounting was measured as the natural logarithm of environmental costs, following Riyadh et al. in Medianawati and Cahyonowati (2025). CSR was measured through the CSRI, computed as the total score of disclosed indicators divided by 91 GRI G4 indicators. Intellectual capital was measured using VAIC, computed as the sum of VACA, VAHU, and STVA, where value added (VA) equals total output minus input, capital employed is proxied by total equity, human capital is proxied by personnel expense, and structural capital equals value added minus human capital (Pulic, 1998; Ulum et al., 2017). The operationalisation of each variable is summarised in Table 2.

Data were analysed using panel data regression with Moderated Regression Analysis (MRA) via EViews 13 software, which is appropriate for data combining cross-sectional and time-series dimensions (Gujarati & Porter, 2009; Ghozali & Ratmono, 2020). The estimated model is specified as follows:

$$ROA_{it} = \alpha + \beta_1 GA_{it} + \beta_2 CSR_{it} + \beta_3 VAIC_{it} + \beta_4 M1_{it} + \beta_5 M2_{it} + e_{it}$$

Because the initial data did not satisfy the normality assumption, a square root transformation was applied to variable Z and outliers were treated using the Z-Score method, in which observations exceeding 2.5 standard deviations of the residual were excluded; the maximum tolerable proportion of outlier removal is 50% of total observations (Hubert et al., in Susanto, 2023).

Table 2. Operationalisation of Research Variables

No.	Variable	Measurement	Scale
1	Green Accounting (X1)	$GA_{it} = \ln(\text{Environmental Cost})_{it}$	Ratio
2	Corporate Social Responsibility (X2)	$CSR_{it} = \sum X_i / 91 \text{ GRI G4 indicators}$	Ratio
3	Financial Performance (Y)	$ROA_{it} = \text{Profit after tax} / \text{Total assets} \times 100\%$	Ratio
4	Intellectual Capital (Z)	$VAIC = VACA + VAHU + STVA$	Ratio
5	Interaction 1 (M1)	$M1_{it} = GA_{it} \times VAIC_{it}$	Ratio
6	Interaction 2 (M2)	$M2_{it} = CSR_{it} \times VAIC_{it}$	Ratio

RESULTS AND DISCUSSION

Descriptive Statistics

Based on the sample selection process, 35 energy sector companies met all research criteria, yielding 105 balanced panel observations across the 2022–2024 period. Initial testing indicated that the data were not normally distributed, so a square root transformation was applied to variable Z and 21 observations were removed as outliers, reducing the analysis sample to 84 observations from 28 companies, or a 20% reduction that remains well within the tolerable threshold (Hubert et al., in Susanto, 2023). Descriptive statistics before transformation and outlier treatment are presented in Table 3, and after treatment in Table 4.

Table 3. Descriptive Statistics Before Transformation and Outlier Treatment

Variable	N	Min	Max	Mean	Std. Dev.
Y_ROA	105	-0.24619	0.61634	0.10249	0.14601
X1_GA	105	2.34128	14.40413	9.11163	2.83047
X2_CSRI	105	0.39560	0.60440	0.50424	0.05198
Z_VAIC	105	2.09557	908.38700	56.08693	93.70270
M1	105	19.68300	10,488.61000	577.10500	1,111.39500
M2	105	1.08233	489.13150	28.67227	50.28236

Table 4. Descriptive Statistics After Transformation and Outlier Treatment

Variable	N	Min	Max	Mean	Std. Dev.
Y_ROA	84	-0.11645	0.28248	0.06342	0.07249
X1_GA	84	2.34128	14.03528	8.55563	2.75729
X2_CSRI	84	0.39560	0.60440	0.50667	0.05367
Z_VAIC	84	1.44761	30.13946	6.23914	3.36101
M1	84	12.36723	348.00240	55.62509	43.17167
M2	84	0.68232	16.22894	3.17824	1.82622

Table 4 shows that the mean ROA of the sampled energy companies is 0.06342 with a standard deviation of 0.07249, meaning that every one rupiah of assets generated on average 0.0634 rupiah of profit after tax. This 6.34% return must be read cautiously because it lies close to the Bank Indonesia policy rate range of 5.50%–6.25% during the observation period, indicating that the average energy issuer earned only a thin spread above low-risk instruments while bearing substantially higher commodity price, environmental, and regulatory risk (Salim

et al., 2023; Aryani et al., 2023). The standard deviation exceeding the mean confirms high dispersion: six observations (7.1%) recorded negative ROA and 35 observations (41.7%) recorded ROA below 5%, so the sample mean is lifted by a small group of high-performing issuers.

The mean green accounting value of 8.55563 with a standard deviation of 2.75729 reflects considerable heterogeneity in environmental cost intensity. The maximum of 14.03528 was recorded by PT Bumi Resources Tbk (BUMI) in 2023, a large-scale coal producer whose environmental obligations are embedded in its mining licence, including water management, post-mining land rehabilitation, reclamation, dust control, and reclamation guarantees. The minimum of 2.34128 was recorded by PT Buana Lintas Lautan Tbk (BULL) in 2022, a shipping and energy transportation firm without concession areas or reclamation obligations (Trisnawati et al., 2022; Sudarminto & Harto, 2023). Green accounting values in this setting therefore reflect the environmental intensity of the business model before they reflect the firm's environmental commitment.

The mean CSRI of 0.50667 indicates that sample firms disclosed approximately 46 of the 91 GRI G4 indicators, leaving roughly 49.3% of indicators undisclosed. The maximum of 0.60440, obtained by PT Darma Henwa Tbk (DEWA) in 2023, corresponds to 55 indicators, while the minimum of 0.39560, obtained by PT Rukun Raharja Tbk (RAJA) in 2022, corresponds to 36 indicators, so the distance between the most and least informative issuer is only 19 indicators. A standard deviation of 0.05367, equivalent to about five indicators, indicates that disclosure practice is highly uniform, a pattern characteristic of compliance-driven reporting under POJK No. 51/POJK.03/2017 rather than of firm-level differentiation strategies (Dupopadana et al., 2024; Azzahra & Mulyandini, 2025). VAIC has a mean of 6.23914 after transformation, with a maximum of 30.13946 recorded by PT Dian Swastatika Sentosa Tbk (DSSA) in 2024 and a minimum of 1.44761 recorded by PT Sumber Energi Andalan Tbk (ITMA) in 2023; the coefficient of variation fell from 167.1% before transformation to 53.9% afterwards, indicating that extreme dispersion originated largely from differences in cost structure and business scale rather than from differences in organisational knowledge capability (Alvino et al., 2021; Puspita & Wahyudi, 2021).

Panel Data Model Selection

Model selection was conducted sequentially through the Chow Test, Hausman Test, and Lagrange Multiplier Test, as summarised in Table 5. The Chow Test indicating that FEM is preferable to CEM. The Hausman Test indicates that REM is preferable to FEM. The Lagrange Multiplier confirming that REM is preferable to CEM. The Random Effect Model was accordingly selected for hypothesis testing (Gujarati & Porter, 2009).

Table 5. Panel Data Model Selection Results

Test	Statistic	Prob.	Conclusion
Chow Test (Cross-section F)	5.51447 (27,51)	0.0000	FEM preferred over CEM
Chow Test (Cross-section Chi-square)	114.73936 (df 27)	0.0000	FEM preferred over CEM
Hausman Test (Cross-section random)	10.36149 (df 5)	0.0656	REM preferred over FEM
Lagrange Multiplier (Breusch-Pagan)	24.12946	0.0000	REM preferred over CEM

Classical Assumption Tests

The Jarque–Bera normality test initially produced a probability of 0.0000, indicating non-normal residuals; after square root transformation of variable Z and removal of 21 outliers, the probability rose to 0.1294, exceeding 0.05, so the normality assumption is satisfied (Table 6). The heteroscedasticity test produced probability values above 0.05 for all regressors,

namely 0.6401 for X1_GA, 0.7972 for X2_CSRI, 0.8904 for Z_VAIC, 0.7205 for M1, and 0.7674 for M2, indicating homoscedastic residuals. The multicollinearity test based on the correlation matrix produced coefficients of 0.03994 between X1_GA and X2_CSRI, 0.24520 between X1_GA and Z_VAIC, and 0.09559 between X2_CSRI and Z_VAIC, all far below the 0.90 threshold. The Durbin–Watson statistic of 1.60019 approaches 2, indicating no serious autocorrelation. The model therefore satisfies the classical assumptions required for panel data regression (Ghozali & Ratmono, 2020).

Table 6. Summary of Classical Assumption Test Results

Test	Indicator	Result	Conclusion
Normality	Jarque–Bera probability	0.1294	Residuals normally distributed
Heteroscedasticity	Probability of all regressors	0.6401–0.8904	No heteroscedasticity
Multicollinearity	Highest correlation coefficient	0.24520	No multicollinearity
Autocorrelation	Durbin–Watson statistic	1.60019	No serious autocorrelation

Panel Data Regression and Hypothesis Testing

Estimation of the Random Effect Model produced the following regression equation:
 $ROA_{it} = -0.27393 + 0.01514GA_{it} + 0.39141CSR_{it} + 0.04182VAIC_{it} - 0.00167M1_{it} - 0.04984M2_{it} + e_{it}$

Hypothesis testing was conducted through partial t-tests, with a hypothesis considered supported when the probability value was below 0.05 and the coefficient direction matched the hypothesised direction. Table 7 summarises the estimation and hypothesis testing results. Hypothesis testing was conducted through partial t-tests based on the Random Effect Model estimation results, with a hypothesis considered supported when the probability value was below 0.05. Table 7 summarizes the results.

Table 7. Hypothesis Testing Results (Random Effect Model)

Hypothesis	Path	Coefficient	Std. Error	T-Statistic	Prob.	Result
H1	Constant	-0.27393	0.17577	-1.55842	0.1232	Supported
	Green Accounting -> Financial Performance	0.01514	0.00739	2.04995	0.0437	
H2	CSR -> Financial Performance	0.39141	0.31520	1.24176	0.2180	Not supported
H3	Intellectual Capital -> Financial Performance	0.04182	0.02839	1.47305	0.1448	Not supported
H4	Intellectual Capital moderates Green Accounting -> Financial Performance	-0.00167	0.00123	-1.36404	0.1765	Not supported
H5	Intellectual Capital moderates CSR -> Financial Performance	-0.04984	0.05132	-0.97108	0.3345	Not supported

Table 7 shows that only H1 is supported. Green accounting has a coefficient of 0.01514 with a t-statistic of 2.04995 and a probability of 0.0437, which is below 0.05, so green accounting has a positive and significant effect on ROA. CSR has a positive coefficient of 0.39141 but a probability of 0.2180, intellectual capital has a positive coefficient of 0.04182 with a probability of 0.1448, and both interaction terms are negative and insignificant, with probabilities of 0.1765 for M1 and 0.3345 for M2. The simultaneous test produced an F-statistic of 1.66076 with a probability of 0.15403, exceeding 0.05, while the coefficient of determination in the weighted statistics section yielded an R-squared of 0.09622 and an Adjusted R-squared of 0.03828, as reported in Table 8. The model therefore explains only

3.83% of the variation in ROA, with the remaining 96.17% attributable to factors outside the model.

Table 8. Simultaneous Test and Coefficient of Determination

Indicator	Value
R-squared	0.09622
Adjusted R-squared	0.03828
S.E. of regression	0.04758
F-statistic	1.66076
Prob (F-statistic)	0.15403
Durbin-Watson statistic	1.60019

DISCUSSION

Green accounting was found to have a positive and significant effect on financial performance (H1 supported), consistent with Stakeholder Theory, which holds that meeting obligations toward parties affected by corporate activity ultimately returns value to the firm through lower transaction costs, smoother licensing, and reduced social resistance (Freeman & McVea, 2001; Harrison & Wicks, 2013; Parmar et al., 2010). The result is also consistent with the environmental cost classification logic of Hansen and Mowen (2009), in which greater spending on prevention and detection reduces internal and external failure costs by a larger amount, and with the argument that environmental accounting helps management identify inefficient activities and determine corrective action (Deswanto, 2022; Ahmad et al., 2025). The finding aligns empirically with Sari and Astari (2023), Navira and Susilawati (2023), Susanti et al. (2023), Indrayani et al. (2025), and Bangun et al. (2024). Descriptively, PT Bumi Resources Tbk recorded the highest green accounting value in 2023 while PT Buana Lintas Lautan Tbk recorded both the lowest green accounting value and the lowest ROA in the sample at -0.11645, a pattern consistent with the estimated positive relationship.

Corporate social responsibility was found to have a positive but insignificant effect on financial performance (H2 not supported), so the hypothesis is rejected despite the coefficient direction being as predicted. This outcome does not fully support the Stakeholder Theory argument that social responsibility builds mutually beneficial relationships yielding economic benefit, and is better explained by the observation that the financial benefit of CSR in developing countries depends heavily on implementation quality and on directing programmes toward issues material to the business rather than fulfilling administrative obligations (Ma et al., 2023). A statistical explanation also arises from the data: the CSRI range is narrow, from 0.39560 to 0.60440 with a standard deviation of only 0.05367, and such low variance in an independent variable limits the model's ability to detect its effect on the dependent variable (Rahmawati et al., 2024). The uniformity itself reflects the mandatory character of sustainability disclosure in Indonesia, under which reported information tends toward the symbolic and does not necessarily capture the substance of implementation (Azzahra & Mulyandini, 2025). Sector characteristics compound this: energy firms' profitability is dominated by commodity prices, exchange rates, and operating cost structure, while their CSR programmes typically take the form of community empowerment and social impact management oriented toward securing a social licence to operate rather than directly increasing revenue (Daniswari, 2024; Kaur & Singh, 2021). The result is consistent with Amalia and Riyadi (2025) but differs from Rahmawati et al. (2024) and Lestari et al. (2026), with the divergence plausibly attributable to differences in sector, observation period, CSR index construction, and governance characteristics (Velte, 2022).

Intellectual capital was found to have a positive but insignificant effect on financial

performance (H3 not supported). This does not fully support the proposition that intangible knowledge-based resources generate competitive advantage and economic value added, although the positive coefficient direction indicates a tendency consistent with Pulic (1998). Industry characteristics offer the most plausible explanation: profitability in the energy sector is driven more by commodity price fluctuation, exchange rates, global demand, and reserve availability than by internal knowledge-based factors. Sukirman and Dianawati (2023) similarly show that the effect of intellectual capital on financial performance varies with ownership structure and governance characteristics, indicating that its relevance is firm-specific rather than universal. The result differs from Hulaemah and Mulyasari (2024) and Ulandari et al. (2025), and may also reflect the fact that returns to investment in human resources and organisational systems are typically medium to long term, so a three-year observation window may be insufficient to capture them.

Intellectual capital was found not to moderate the effect of green accounting on financial performance (H4 not supported), with a negative and insignificant interaction coefficient. A measurement explanation is central here: VAIC captures aggregate value creation efficiency through capital employed, human capital, and structural capital efficiency, without specifically capturing knowledge capacity related to environmental information management, and its capital employed component tends to dominate in capital-intensive firms, so the human and structural capital components most relevant to environmental innovation are underweighted (Ulum et al., 2017). The result is consistent with Afni and Achyani (2023), while Sumayyah et al. (2025) find that green intellectual capital strengthens the effect of green accounting on environmental performance but not on financial performance, suggesting that knowledge benefits in environmental management appear earlier in operational and environmental outcomes than in financial outcomes. A further contextual factor is that environmental cost management in the energy sector is tightly prescribed by regulation covering waste management, land reclamation, and emission control, which narrows the scope for intellectual capital to create differentiation in converting environmental information into financial advantage.

Intellectual capital was likewise found not to moderate the effect of CSR on financial performance (H5 not supported). This is conceptually consistent with the rejection of H2: where the direct relationship between CSR and ROA is not statistically detectable, a moderating variable is unlikely to strengthen a relationship that is weak at its base. Theoretically, relational capital should be central to CSR effectiveness because it concerns the firm's capacity to build trust with external stakeholders, yet VAIC does not explicitly separate relational capital from human and structural capital, which may contribute to the non-detection of the moderating effect (Bontis, 1998; Ulum et al., 2017). Ulandari et al. (2025) found intellectual capital to be relevant when positioned alongside good corporate governance rather than CSR, indicating that its moderating capacity is more relevant on the governance pathway than on the social responsibility pathway. CSR programmes in the energy sector are typically compensatory and legalistic rather than innovation-based, so they depend less on deep organisational knowledge than CSR in manufacturing or financial services (Feng et al., 2022), and the financial benefit of CSR generally requires a longer observation window to become visible in financial ratios (Coelho et al., 2023).

Collectively, these findings indicate that financial performance improvement in the energy sector remains predominantly determined by tangible asset management and conventional operational and financial factors, rather than by the quality of environmental responsibility, social responsibility, and intellectual resource management. The low Adjusted R-squared of 0.03828 and the insignificant F-statistic probability of 0.15403 explicitly confirm that most of the variation in ROA is explained by factors outside the model, such as global

commodity prices, capital structure, firm size, and macroeconomic conditions.

The remaining 96.17% of the variation in ROA is attributable to factors outside the specification. Because the model contains no control variables, the estimated coefficients are exposed to omitted variable bias and should be interpreted as associations rather than as causal effects. The most plausible omitted determinants in this sector are firm size, leverage and capital structure, asset turnover, sales growth, and ownership structure at the firm level, together with global commodity prices, the rupiah exchange rate, and the policy interest rate at the macroeconomic level; the observation window itself spans the 2022 coal price peak and the subsequent 2023-2024 correction, a cycle that plausibly dominates short-term profitability in energy firms (Salim et al., 2023; Aryani et al., 2023; Atarwaman, 2025). The reduced sample also constrains inference with 84 observations and five regressors. The non-significant results reported for H2 through H5 therefore indicate an absence of detectable effects in this sample rather than evidence that such effects do not exist. Green accounting nevertheless emerges as the one sustainability practice with a measurable short-term financial signal, which supports the interpretation that in industries with high environmental exposure, environmental cost allocation communicates efficiency and regulatory compliance more credibly to the market than long-horizon social programmes.

CONCLUSION AND RECOMMENDATION

This study examined the effect of green accounting and corporate social responsibility on the financial performance of energy sector companies listed on the Indonesia Stock Exchange during 2022–2024, with intellectual capital as both a direct predictor and a moderating variable, using panel data regression with a Moderated Regression Analysis approach. From an initial 35 companies and 105 firm-year observations, square root transformation and outlier treatment yielded 84 observations used in the final estimation. The results show that green accounting has a positive and significant effect on financial performance, whereas CSR and intellectual capital have positive but insignificant effects, and intellectual capital moderates neither the green accounting–financial performance relationship nor the CSR–financial performance relationship. The full model explains 3.83% of the variation in ROA (Adjusted $R^2 = 0.03828$).

The findings provide partial support for Stakeholder Theory, in that fulfilling environmental responsibility toward stakeholders produces measurable economic benefit through efficiency and risk mitigation. They also offer a qualification to Legitimacy Theory in the energy sector context, where social disclosure and intangible asset ownership appear to function primarily as instruments for securing a social licence to operate rather than as dominant profit drivers. The absence of moderating effects indicates a gap in the utilisation of knowledge-based resources: efficiency in human and structural capital has not been explicitly integrated with environmental cost management and social programme design in a way that produces net income, which suggests that the effectiveness of intellectual capital as a moderator is contingent on industry characteristics, with physical assets remaining the primary determinant of performance in capital-intensive industries.

Practically, regulators are encouraged to strengthen sustainability reporting guidance so that companies disclose not merely the existence of programmes but also their costs, targets, processes, outcomes, and measurable impacts, and to establish a minimum mandatory indicator list for the energy sector with environmental costs presented as a separate line item under a standard classification. Investors are encouraged to consider the quality of green accounting implementation alongside conventional financial ratios when assessing energy sector issuers. Company management is encouraged to apply green accounting comprehensively, from identification and measurement through allocation and disclosure, and to use the resulting

information in planning, budgeting, control, and operational evaluation.

This study is limited to the energy sector listed on the IDX over a three-year period, uses a single profitability proxy, relies on publicly disclosed information for measuring environmental costs and CSR, and employs VAIC, which does not separately capture relational capital, innovation capability, or organisational culture. The absence of control variables and the reduced number of observations after outlier treatment may also lower the statistical power to detect moderating effects, so the non-significant interaction results should not be read as definitive evidence that no moderation exists. Future research is recommended to extend the observation period, compare other capital-intensive or high-environmental-exposure sectors, employ alternative performance proxies such as Return on Equity, Net Profit Margin, or Tobin's Q, develop richer green accounting measures such as PROPER ratings and environmental disclosure quality, and test alternative moderating variables such as good corporate governance, firm size, ownership structure, or business strategy, while incorporating control variables such as firm size, leverage, and sales growth.

REFERENCES

- Achmar, N. A., & Susanti, N. A. (2025). Green accounting dan implikasinya terhadap kinerja perusahaan di sektor industri manufaktur. *Jurnal Ilmiah Metansi* (Manajemen dan Akuntansi), 8(1), 189–196.
- Afni, F. N., & Achyani, F. (2023). Pengaruh Green Accounting, Sustainability Report Dan Material Flow Cost Accounting Terhadap Profitability Dengan Intellectual Capital Sebagai Variabel Moderasi. *INNOVATIVE: Journal of Social Science Research*, 3(5), 2196–2210.
- Ahmad, I., Abdullah, A., Khalik, A., & Putra, A. H. P. K. (2025). *The mediating role of green accounting management on Financial performance: Integrated stakeholder theory and natural resource-based view*. *International Journal of Energy Economics and Policy*, 15(3), 245–261.
- Alvino, F., Di Vaio, A., Hassan, R., & Palladino, R. (2021). *Intellectual Capital And Sustainable Development: A Systematic Literature Review*. *Journal of Intellectual Capital*, 22(1), 76–94.
- Amalia, D. S., & Riyadi, S. (2025). Dampak Green Accounting Dan Corporate Social Responsibility (CSR) Dengan Kinerja Keuangan Melalui Nilai Perusahaan Pada Perusahaan Sektor Pertambangan Di Bursa Efek Indonesia: Studi periode 2020–2024. *Optimal: Jurnal Ekonomi dan Manajemen*, 6(1), 132–152.
- Arifqi, A. D., & Sisdianto, E. (2025). Akuntansi Lingkungan Sebagai Pilar Utama dalam Mengukur Dampak Ekologis dan Keberlanjutan Perusahaan. *Jurnal Ilmiah Ekonomi Bisnis dan Akuntansi*, 2(1), 644–652.
- Aryani, L., Hizazi, A., & Herawaty, N. (2023). *The Effect Of Green Accounting, Financial Performance on Company Value With Profitability as an Intervening Variable*. *American International Journal of Business Management*, 6(5), 51–61.
- Astiti, N. P. Y. (2024). Profitabilitas, Corporate Social Responsibility, Good Corporate Governance dan Ukuran Perusahaan terhadap Nilai Perusahaan Manufaktur di Indonesia. *Ekonomis: Journal of Economics and Business*, 8(2), 1162–1170.
- Atarwaman, R. J. (2025). The influence of green intellectual capital, green accounting, and ESG performance on financial performance with firm size as a moderating variable. *Jurnal Ilmiah Akuntansi Kesatuan*, 13(6).
- Azzahra, S. F., & Mulyandini, R. (2025). *Triple Bottom Line dan Pembangunan Berkelanjutan*. *Jurnal Ekonomi dan Keberlanjutan*, 7(2), 89–105.
- Bangun, A. M., Astuti, T., & Satria, I. (2024). Pengaruh *Green Intellectual Capital*, *Green*

- Accounting, dan Firm Size terhadap Kinerja Keuangan dengan good corporate governance sebagai Variabel Moderasi. Jurnal Riset Bisnis, 7(2), 314–335.*
- Bontis, N. (1998). *Intellectual Capital: An Exploratory Study That Develops Measures and Models. Management Decision, 36(2), 63–76.*
- Coelho, R., Jayantilal, S., & Ferreira, J. J. (2023). *The Impact Of Social Responsibility on Corporate Financial Performance: A Systematic Literature Review. Corporate Social Responsibility and Environmental Management, 30(4), 1535–1560.*
- Costa, J., & Fonseca, J. P. (2022). *The impact of Corporate Social Responsibility and Innovative Strategies on Financial Performance. Risks, 10(103), 1–20.*
- Daniswari, D. (2024). CSR dalam Perspektif Etika Bisnis. *Jurnal Bisnis dan Etika, 11(2), 145–162.*
- Deswanto, V. (2022). *Literature Review: Green Accounting Era 4.0 Menuju Society 5.0. Jurnal Riset Akuntansi dan Manajemen, 11(2), 42–48.*
- Dupopadana, I. G., Arief, M. K., & Firmansyah, A. (2024). Perkembangan Pelaporan Berkelanjutan di Indonesia. *Jurnal Pajak dan Keuangan Negara, 4(6), 1091–1100.*
- Dwianika, A., Purwanto, E., Suyoto, Y. T., & Pitaloka, E. (2024). *Bibliometrics Analysis of Green Accounting Research. International Journal of Energy Economics and Policy, 14(1), 349–358.*
- Feng, Y., Akram, R., Hameed, J., Mehmood, S., & Adeel, S. (2022). *The Impact of Corporate Social Responsibility on The Sustainable Financial Performance of Italian Manufacturing Firms: The Mediating Role of Firm Reputation. Economic Research-Ekonomska Istraživanja, 35(1), 4740–4758.*
- Freeman, R. E., & McVea, J. (2001). *A Stakeholder Approach To Strategic Management. Darden Business School Working Paper, University of Virginia.*
- Ghozali, I., & Ratmono, D. (2020). Analisis Multivariat Dan Ekonometrika: Teori, Konsep, dan Aplikasi dengan EvIEWS 10 (2nd ed.). Badan Penerbit Universitas Diponegoro.
- Gujarati, D. N., & Porter, D. C. (2009). *Basic Econometrics* (5th ed.). McGraw-Hill Irwin.
- Hansen, D. R., & Mowen, M. M. (2009). *Managerial Accounting* (8th ed.). South-Western Cengage Learning.
- Harrison, J. S., & Wicks, A. C. (2013). *Stakeholder Theory, Value, And Firm Performance. Business Ethics Quarterly, 23(1), 97–124.*
- Hulaemah, E., & Mulyasari, W. (2024). *Green Intellectual Capital and Financial Performance: The Role of Sustainable Growth Rate. Accounting and Sustainability, 3(2).*
- Indrayani, S. V., Rahayu, S., & Putra, W. E. (2025). *From Environment to Profit: The Impact of Green Accounting and Environmental Performance on Financial Performance. Jurnal Sosial dan Sains, 4(12), 4249–4260.*
- Kasmir. (2019). Analisis Laporan Keuangan. Rajawali Pers.
- Kaur, N., & Singh, V. (2021). *Corporate Social Responsibility and Financial Performance: A Review. Asian Journal of Accounting Research, 6(2), 134–151.*
- Kementerian Lingkungan Hidup. (2022). Laporan Hasil Program Penilaian Peringkat Kinerja Perusahaan dalam Pengelolaan Lingkungan (PROPER) 2021–2022. Kementerian Lingkungan Hidup dan Kehutanan Republik Indonesia.
- Kementerian Lingkungan Hidup. (2025). Laporan hasil Program Penilaian Peringkat Kinerja Perusahaan dalam Pengelolaan Lingkungan (PROPER) 2023–2024. Kementerian Lingkungan Hidup dan Kehutanan Republik Indonesia.
- Lestari, A. A., Ayu, B. D. P., & Cahyani, A. (2026). *Corporate Social Responsibility dan Kinerja Keuangan Perusahaan: Bukti Empiris Dalam Kerangka Signaling Theory. Akuntansi '45: Jurnal Ilmiah Akuntansi, 7(1), 1081–1093.*

- Lestari, M. (2023). Pengaruh *Green Accounting*, *Green Intellectual Capital* dan Pengungkapan *Corporate Social Responsibility* (CSR) Terhadap Nilai Perusahaan. *Jurnal Ekonomi Trisakti*, 3(2), 2955–2968.
- Ma, C., Chishti, M. F., Durrani, M. K., Bashir, R., Sofia, S., & Hussain, R. T. (2023). *The Corporate Social Responsibility And Its Impact On Financial Performance: A Case Of Developing Countries*. *Sustainability*, 15(3724).
- Masrinda, S. (2024). *Green Accounting: Konsep dan Implementasi dalam Akuntansi Lingkungan Perusahaan*. *Jurnal Akuntansi Lingkungan*, 8(1).
- Medianawati, A. D., & Cahyonowati, N. (2025). Pengaruh *Green Accounting* Terhadap *Sustainable Development* dengan Pengungkapan *Corporate Social Responsibility* Sebagai Variabel Mediasi. *Diponegoro Journal of Accounting*, 14(3), 1–15.
- Navira, N., & Susilawati, S. (2023). *The Role of Green Accounting and Capital Structure on Financial Performance in Manufacturing Companies*. *International Journal Management and Economic*, 2(3), 24–27.
- Nguyen, C. T., Nguyen, L. T., & Nguyen, N. Q. (2022). *Corporate Social Responsibility and Financial Performance: The Case in Vietnam*. *Cogent Economics & Finance*, 10(1), 2075600.
- Otoritas Jasa Keuangan. (2017). Peraturan Otoritas Jasa Keuangan Nomor 51/POJK.03/2017 Tentang Penerapan Keuangan Berkelanjutan Bagi Lembaga Jasa Keuangan, Emiten, dan Perusahaan Publik. Otoritas Jasa Keuangan Republik Indonesia.
- Palgunadi, N. M. D. K. R., Yuniarta, G. A., & Werastuti, D. N. S. (2024). *The Influence Of Intellectual Capital and Green Accounting on Financial Performance Moderated by Business Strategy Variables in Basic Materials Sector Companies Listed on The Indonesia Stock Exchange (IDX) from 2020 to 2022*. *American Journal of Humanities and Social Sciences Research*, 8(5), 266–272.
- Parmar, B. L., Freeman, R. E., Harrison, J. S., Wicks, A. C., Purnell, L., & De Colle, S. (2010). *Stakeholder Theory: The State of The Art*. *The Academy of Management Annals*, 4(1), 403–445.
- Pulic, A. (1998). *Measuring The Performance of Intellectual Potential in Knowledge Economy. Proceedings of the 2nd McMaster World Congress on Measuring and Managing Intellectual Capital*.
- Puspita, G., & Wahyudi, T. (2021). Modal Intelektual (*Intellectual Capital*) dan Nilai Perusahaan pada Industri Manufaktur. *Owner: Riset & Jurnal Akuntansi*, 5(2), 416–428.
- Rahmawati, D. D., Setiono, H., & Ilmiddaviq, M. B. (2024). Pengaruh *Green Accounting*, *Corporate Social Responsibility*, dan Kinerja Keuangan terhadap Nilai Perusahaan. *JIESA: Journal of International Economic, Social and Academic*, 1(5), 45–59.
- Salim, M. J. M., Eksandy, A., & Sofia, I. P. (2023). *The Effect of Green Accounting and Firm Size on Financial Report Performance*. *International Journal of Accounting, Management, Economics and Social Sciences*, 1(4), 432–441.
- Sari, N., & Astari, T. A. (2023). *Green Accounting Implementation on The Improvement of Company Financial Performance*. *International Journal of Business, Education, Humanities and Social Sciences*, 5(1), 1–7.
- Sekaran, U., & Bougie, R. (2020). *Research Methods For Business: A Skill-Building Approach* (8th ed.). John Wiley & Sons.
- Sudarminto, H. T., & Harto, P. (2023). *Green Accounting Concepts and Practices Towards Measuring Environmental Sustainability and Sustainable Business Value*. *International Journal of Science and Society*, 5(5), 629–643.
- Sugiyono. (2022). *Metode Penelitian Kuantitatif*. Alfabeta.

- Sukirman, A. S., & Dianawati, W. (2023). *Green Intellectual Capital and Financial Performance: The Moderate of Family Ownership*. *Cogent Business & Management*, 10(1), 2200498.
- Sumayyah, S., Damayanti, R. W., & Zahara, I. (2025). *Green Innovation, Green Accounting, and Performance: The Moderating Role of Green Intellectual Capital*. *Journal of Accounting and Investment*, 26(1), 270–297.
- Surianti, M., Hutagalung, M. T., Gultom, S. A., Nasution, A. W., & Cahyoginarti. (2025). *The Effect of Green Accounting and Green Intellectual Capital on Profitability*. *Jurnal Akuntansi*, 29(2), 312–335.
- Susanti, I. D., Hertati, L., & Putri, A. U. (2023). *The Effect of Green Accounting and Environmental Performance on Company Profitability*. *Current Advanced Research on Sharia Finance and Economic Worldwide*, 2(2), 320–331.
- Susanto, J. (2023). *Pengaruh Enterprise Risk Management, Manajemen Laba, dan Tax Avoidance Terhadap Nilai Perusahaan (Undergraduate Thesis)*. Universitas Pembangunan Jaya.
- Trisnawati, L. P. P., Nawangsari, L. C., Lo, S. J., Zainal, V. R., & Irmaningsih, E. S. (2022). *Literature Review Of Corporate Sustainability In Practices (The Implementation Of Green Accounting In Modern Industries)*. *International Journal of Social Science and Human Research*, 5(11), 5182–5191.
- Ulandari, M. N., Indiraswari, S. D., & Yogivaria, D. W. (2025). *The Effect of Green Accounting, Intellectual Capital, Sales Growth on Financial Performance with GCG Moderation*. *Jurnal Ilmiah Akuntansi dan Keuangan*, 14(1), 1–13.
- Ulum, I., Kharismawati, N., & Syam, D. (2017). *Modified Value-Added Intellectual Coefficient (MVAIC) and Traditional Financial Performance of Indonesian Biggest Companies*. *International Journal of Learning and Intellectual Capital*, 14(3), 207–219.
- Velte, P. (2022). *Meta-Analyses on Corporate Social Responsibility (CSR): A Literature Review*. *Management Review Quarterly*, 72, 627–675.
- Widyastuti, T. (2024). *Exploring The Influence of Green Accounting on Sustainability Performance: A Literature Review*. *Greenation International Journal of Economics and Accounting*, 2(1), 1–13.

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