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Financial Performance in a Sustainability Perspective: The Role of Environmental Performance, *Intellectual Capital*, and *Corporate Governance*

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ABSTRACT

This study examines the influence of environmental performance, intellectual capital, and corporate governance on the financial performance of energy sector companies listed on the Indonesia Stock Exchange during the 2021–2023 period. Secondary data were obtained from financial statements and PROPER rating reports. A total of 63 observations from 21 companies were selected using purposive sampling. Data analysis was conducted using panel data regression with the aid of STATA17 software. The results show that intellectual capital and the number of audit committee members have a positive and significant effect on financial performance. These findings indicate that efficient management of intangible assets and strong internal oversight mechanisms can enhance company profitability. Additionally, the proportion of independent commissioners exhibits a negative and significant effect on financial performance, suggesting potential ineffectiveness in oversight when not accompanied by sufficient engagement and competence.On the other hand, environmental performance, board size, and managerial ownership variables do not show significant effects. These findings imply that not all aspects of sustainability and corporate governance contribute directly to improvements in financial performance.

Keywords: ***financial performance; environmental performance; intellectual capital; corporate governance.***

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INTRODUCTION

Attention to sustainability and environmental issues has increased significantly in recent years, both at the global and national levels. Pressure on companies to be accountable for their environmental impact comes not only from government regulations but also from the public, the media, and non-governmental organizations. The energy sector has become a primary focus because it is one of the largest contributors to carbon emissions and environmental damage (Maisarah et al., 2024). The energy sector plays a strategic role in the economy. Energy is a basic necessity for consumers as well as an important element in industrial production processes. This sector faces major challenges, including the global energy transition and commodity price fluctuations. The IDX Composite (2023) recorded the energy sector as experiencing the largest

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annual index decline of -101.01 points, with an 11% weighting in the total index. The downward trend in oil and coal prices since mid-2022 has further weakened the performance of this sector (Chandren, 2023).

Several energy companies reported declines in revenue and profit in 2023. Indika Energy (INDY) experienced a 30.2% decrease in revenue due to lower selling prices and coal sales volume (Teladan Resources, 2024). PT Bukit Asam (PTBA) recorded a 50.7% decrease in net profit, while PGAS experienced a 14.75% drop in profit. The weakening financial performance is also related to environmental issues. Some companies received legal sanctions for environmental pollution, such as PT LCL in Muara Enim and PT BA in Lahat, which directly impacted operational costs and company reputation (Ramadhani et al., 2022). Corporate environmental performance is an important aspect assessed through the PROPER program by Ministry of Environment and Forestry. This program evaluates companies' compliance with environmental regulations and publicly discloses the results (Salsabila & Prijanto, 2025). Previous research shows that good environmental performance can increase stakeholder trust and positively affect financial performance (Aulia et al., 2025; Cahyani & Puspitasari, 2023; Ramadhani et al., 2022; Sejati et al., 2020; Zainab & Burhany, 2020). Insignificant results were also found by Putri et al. (2024) and Santika et al. (2023), indicating that other variables may influence this relationship.

Intellectual capital is a strategic asset in driving sustainable transformation. Research by Wardifa & Yanthi (2022), Himmah et al. (2024), and Wati et al. (2024) shows a significant positive relationship between intellectual capital and financial performance. Corporate governance is an important factor in effective company management. Common indicators used in studies include the number of board commissioners, the proportion of independent commissioners, managerial ownership, and the number of audit committees. Research findings vary. Some studies report significant positive effects (Gunawan & Wijaya, 2020; Kyere & Ausloos, 2021; Zelalem et al., 2022), while others find insignificant or even negative effects (Arimby & Astuti, 2023; Febrina & Sri, 2022; Sifananda et al., 2024).

The examination of the influence of environmental performance, intellectual capital, and corporate governance on financial performance remains relevant for further study, especially in

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the energy sector, which is greatly affected by environmental and global economic issues. This relevance is reinforced by the sector's crucial role in the transition toward a green economy and the increasing demands for transparency from investors and stakeholders. The research focuses on the 2021 to 2023 period, reflecting the post-pandemic adaptation phase, the beginning of national economic stabilization, and increased transparency in corporate sustainability reporting. This timeframe is considered representative for empirically analyzing the link between sustainability practices and financial performance.

LITERATURE REVIEW

Agency Theory

Agency theory explains the potential conflict between the owners of a company (principals) and those authorized to run the company's operations (agents), which arises due to differences in their interests (Jensen et al., 1976). Vendy et al. (2024) emphasize that when ownership and control are separated, managers do not always act in the best interests of shareholders.

Resource-Based Theory

Resource-Based Theory highlights that a company's competitive advantage heavily depends on its ability to optimally manage and utilize its internal resources (Wernerfelt, 1984). To sustain a competitive advantage over the long term, a company must own resources that are valuable, unique, hard to duplicate, and cannot be replaced. One important resource is intellectual capital, which significantly contributes to advancing environmental sustainability (Barak & Sharma, 2024).

Legitimacy Theory

Legitimacy theory assumes that a company's survival largely depends on its ability to align itself with evolving social values and public expectations (Dowling & Pfeffer, 1975). When a gap exists, the company risks losing legitimacy (legitimacy gap). Hanafi and Utomo (2025)

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assert that companies demonstrating compliance with social and environmental norms, while creating economic value, tend to gain greater trust from investors and other stakeholders.

Stakeholder Theory

Stakeholder theory argues that a company's success is determined not only by shareholder satisfaction but also by its ability to meet the expectations of various parties interested in its operations. This theory promotes transparency and accountability by delivering relevant information about every decision and action taken. Oneway companies maintain good relations with stakeholders is through sustainability reporting and disclosure of environmental performance (Benson et al., 2021). The application of intellectual capital is also considered to strengthen company-stakeholder relationships.

Financial Performance

Financial performance illustrates how effectively a company manages and utilizes its resources to achieve its business objectives optimally. A widely used indicator for evaluating financial performance is Return on Assets (Hanafi & Utomo, 2025). Assessing performance allows for an accurate depiction of the company's financial condition over a certain period.

Environmental Performance

Environmental performance refers to a company's concrete efforts to reduce negative environmental impacts through efficient resource management, waste reduction, and the adoption of environmentally friendly technologies (Zainab & Burhany, 2020). Environmental performance measurement can be observed through the PROPER program issued by Ministry of Environment and Forestry (Zainab & Burhany, 2020).

Intellectual Capital

Intellectual Capital (IC) represents a form of intangible asset that includes a company's knowledge, capabilities, and relationships, all of which contribute to generating added value (Barak & Sharma, 2024). It consists of four key components: how efficiently human capital is

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utilized, the strength of structural capital, the effectiveness of relational capital, and the efficiency in employing capital.

Corporate Governance

Corporate governance refers to a structured framework established to direct, manage, and oversee business operations, aiming to increase company value while demonstrating accountability to both internal and external stakeholders (Pratiwi & Noegroho, 2022). According to previous research, effective corporate governance mechanisms are measured through several indicators, such as board size, proportion of independent commissioners, managerial ownership, and the existence of audit committees (Febrina & Sri, 2022; Haryani & Susilawati, 2023).

Environmental Performance on Financial Performance

Environmental performance reflects the extent to which a company is responsible for the environmental impact of its operations. Stakeholder theory views attention to environmental issues as part of a company's responsibility to various stakeholders, such as consumers, regulators, investors, and local communities. Accurate reporting of environmental performance not only addresses demands for transparency but also serves as a foundation for building healthy and sustainable relationships with stakeholders. When a company demonstrates good environmental performance, it can strengthen its market position and support long-term financial growth (Salsabila & Prijanto, 2025). Numerous studies indicate that environmental performance has no meaningful impact on financial performance (Putri et al., 2024; Santika et al., 2023). However, research by Zainab and Burhany (2020), Sejati et al. (2020), Ramadhani et al. (2022), Cahyani and Puspitasari (2023), Aulia et al. (2025), and Salsabila and Prijanto (2025) shows that environmental performance positively affects financial performance.

H_1: Environmental performance positively affects the financial performance.

Intellectual Capital on Financial Performance

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Intellectual capital is regarded as a strategic strength that can drive competitive advantage. Within the framework of Resource-Based Theory, a company's competitive advantage is derived from the management of internal resources, particularly intangible assets such as intellectual capital, which are capable of providing sustainable added value (Wardifa & Yanthi, 2022). Through efficient and synergistic management, intellectual capital can support long-term profitability growth. Several studies have revealed that intellectual capital contributes positively and significantly to improving financial performance. Research by Wardifa and Yanthi (2022), Himmah et al. (2024), Wati et al. (2024), and Barak and Sharma (2024) shows that intellectual capital helps companies optimize the use of knowledge and green technology in their business processes.

H_2: Intellectual capital positively affects the financial performance.

Board Size on Financial Performance

The board of commissioners plays a strategic role in ensuring that the company's operational activities adhere to good governance principles. Agency theory explains this role by describing the relationship between the owners of the company (principals) and management (agents) as the parties authorized to manage the company. Agents are responsible for representing the principals' interests in operational decision-making (Jensen et al., 1976). As good governance practices develop, companies with higher agency costs tend to increase transparency in information disclosure, reflecting management accountability while also strengthening the trust of investors and other stakeholders. Having an adequate number of board members allows for more thorough and effective oversight (Haryani, 2023; Sibuea, 2022). Some studies found no significant effect on financial performance (Rosdiana, 2023; Sifananda et al., 2024), while others reported a positive and significant influence (Kyere & Ausloos, 2021; Zelalem et al., 2022; Haryani & Susilawati, 2023).

H_3: Board size positively affects the financial performance.

Independent Board of Commissioners on Financial Performance

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Independent commissioners are board members who have no vested interest in the management or majority shareholders. An adequate proportion of independent commissioners is believed to strengthen the integrity of financial reporting and protect stakeholder interests (Sibuea, 2022). From the perspective of agency theory, the existence of independent commissioners can be seen as a mechanism to reduce agency problems that arise in the relationship between the principals (owners) and the agents (managers) who are authorized to run the company. Since managers are responsible for representing the interests of shareholders in operational decision-making (Jensen et al., 1976), companies with higher agency costs generally seek to enhance transparency in information disclosure. This practice not only reflects management accountability but also strengthens the trust of investors and other stakeholders. Arimby and Astuti (2023) found no significant effect, while Hidayat et al. (2025) found a significant negative effect. However, several other studies reported a positive and significant relationship between independent commissioners and financial performance (Haryani & Susilawati, 2023; Kyere & Ausloos, 2021; Sibuea & Setiawati, 2020).

H_4: Independent board commissioners positively affect the financial performance.

Managerial Ownership on Financial Performance

Managerial ownership describes the proportion of shares held by the company's management. When managers have a direct financial stake, they tend to be more cautious and act in alignment with company goals, as their decisions directly impact the value of shares they own (Haryani, 2023; Pratiwi, 2022). Agency theory provides a useful perspective in explaining this mechanism, as it highlights the relationship between the principals (owners) and the agents (managers) who are authorized to manage the company. By holding shares, managers' interests become more closely aligned with those of shareholders, thereby reducing potential conflicts of interest. In practice, companies with higher agency costs often strive to enhance transparency in information disclosure, which reflects stronger management accountability and fosters greater trust among investors and stakeholders (Jensen et al., 1976). Empirical findings on the impact of managerial ownership, however, show mixed results. Febrina and Sri (2022) reported no

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significant effect, while other studies indicate a significant positive influence (Gunawan & Wijaya, 2020; Pratiwi & Noegroho, 2022; Sifananda et al., 2024).

H_5: Managerial ownership positively affects the financial performance.

Number of Audit Committees on Financial Performance

The audit committee is an important unit that assists the board of commissioners in overseeing corporate governance implementation (Sibuea, 2022). Composed of independent members with expertise in relevant fields, the audit committee is expected to ensure effective monitoring of managerial activities. From the perspective of agency theory, the existence of an audit committee functions as a mechanism to mitigate agency problems that may arise between principals (owners) and agents (managers). Since managers are entrusted with representing shareholders' interests in operational decision-making (Jensen et al., 1976), the audit committee helps ensure that these decisions are made transparently and accountably. In practice, companies with higher agency costs tend to strengthen information disclosure as a form of managerial accountability, which in turn enhances investor and stakeholder trust. Empirical evidence on the role of audit committees in financial performance remains inconclusive. Some studies show a significant negative effect on financial performance (Febrina & Sri, 2022; Sifananda et al., 2024). Other studies find the effect to be insignificant (Rosdiana, 2023). However, there are also studies that find a significant positive impact (Arimby & Astuti, 2023; Shanti, 2020; Sibuea & Setiawati, 2020).

H_6: The number of audit committees positively affects the financial performance.

METHOD

Data Types and Sources

This research uses a quantitative method, emphasizing numerical data, and statistical techniques to clarify the relationships among variables in a particular phenomenon. The data

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used are secondary data obtained from company annual reports and PROPER ratings. The study examines several output variables, namely environmental performance, intellectual capital, board size, proportion of independent commissioners, managerial ownership, and the number of audit committee members.

Population and Sample

This study employs a quantitative approach, focusing on numerical data and statistical analysis to explain the relationships between variables within a specific phenomenon. This study relies on secondary data collected from annual reports and PROPER rating publications. The study examines several output variables, namely environmental performance, intellectual capital, board size, proportion of independent commissioners, managerial ownership, and the number of audit committee members.

Operational Definition and Measurement of Variables

This study's operational description and measurement of the variables are described as follows:

1. Financial performance is evaluated through the Return on Assets (ROA) metric. ROA is considered relevant because it is not directly affected by the company's financing structure, thus providing a comprehensive overview of operational profitability. The formula for calculating ROA is as follows (Barak & Sharma, 2024):

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}} \text{x } 100\%$$

2. Environmental performance is a measure of a company's ability to manage the environmental impact of its operational activities responsibly and in compliance with applicable regulations. This study measures environmental performance using PROPER score data. The PROPER environmental performance rating categories are as follows (Aulia et al., 2025):

Black (1), Red (2), Blue (3), Green (4), and Gold (5)

3. Intellectual capital is considered an intangible asset that can provide a competitive advantage and support long-term business sustainability. Intellectual capital is

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measured using the MVAIC model. According to Barak and Sharma (2024), the MVAIC formula is as follows:

$$\text{MVAIC} = \text{HCE} + \text{CEE} + \text{SCE} + \text{RCE}$$

4. Number of board commissioners is considered capable of carrying out effective supervisory functions. Kyere and Ausloos (2020) measure board size using the following formula:

$$\text{Board Size} = \text{Number of Board Commissioners}$$

5. Independent commissioners have no affiliation with management or major shareholders, allowing them to provide objective assessments. The proportion of independent commissioners is measured as follows (Haryani & Susilawati, 2023):

$$\text{Independent Commissioners} = \frac{\text{Number of Independent Commissioners}}{\text{Total Board Members}}$$

6. Managerial ownership significantly contributes to fostering integrity in corporate decision-making processes. According to Sifananda et al. (2024), managerial ownership is calculated using the following formula:

$$\text{Managerial Ownership} = \frac{\text{Number of Shares Owned by Management}}{\text{Total Outstanding Shares}} \text{ x } 100\%$$

7. The audit committee serves as a support system for the board of commissioners in overseeing the implementation of good corporate governance principles. The way to measure this is by applying the formula below, as explained by Arimby dan Astuti (2023):

$$\text{Audit Committee Size} = \text{Number of Committee Members}$$

8. Leverage functions as a control variable in this study to indicate the extent of a company's debt usage as a financing source (Barak & Sharma, 2024). Leverage is calculated as follows:

$$Leverage = \frac{Total\ Debt}{Total\ Assets}$$

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9. Firm size serves as a control variable that reflects the company's operational scale and resources (Barak & Sharma, 2024). Firm size can be measured using the following formula:

Size = LN (*total assets*)

Data Analysis Method

This study employs both descriptive and inferential statistical analysis techniques. This study applies a panel data regression method, merging data across different entities and time periods for analysis. The software used in this study is STATA17, with the panel data regression equation model as follows:

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \beta_6 X_{6it} + \beta_7 SIZE_{it} + \beta_8 LEV_{it} + \epsilon_{it}$$

Notes:

Y_{it} : Financial Performance

α : Constant (intercept)

i : Cross-section (company data)

t : Time-series (time period)

$\beta_1\beta_2\beta_3\beta_4\beta_5\beta_6$: Regression coefficients of independent variables

$\beta_7\beta_8$: Regression coefficients of control variables

X_{1it} : Intellectual capital

X_{2it} : Board size

X_{3it} : Independent board of commissioners

X_{4it} : Managerial ownership

X_{5it} : Number of audit committees

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X_{6it} : Variabel bebas jumlah komite audit

$\beta_7 SIZE_{it}$: Control variable company size

$\beta_8 LEV_{it}$: Control variable leverage

ϵ_{it} : Error term

RESULT AND DISCUSSION

Table 1. Descriptive Statistical Analysis

Descriptive Statistics					
Variable	**Obs**	**Mean**	**Std. dev.**	**Min**	**Max**
y	63	.1805714	.1732841	-.246	.616
x1	63	3.793651	.8643239	2	5
x2	63	44.37698	143.917	2.896	1049.9
x3	63	4.857143	1.924856	2	9
x4	63	.4009683	.0980137	.286	.75
x5	63	.0140159	.0327032	0	.15
x6	63	3.333333	.8230549	2	6
x7	63	.1228413	.1285425	0	.5
x8	63	20.18397	3.107631	13.186	27.799

Source: data processed by researchers, 2025

Table 1 presents the descriptive statistics from 63 research observations, focusing on the highest values for each main metric. The variable with the highest average (mean) is intellectual capital (X_2) at 44.38, which also records the highest standard deviation, amounting to 143.92, indicating a wide disparity in how companies manage intangible resources. The maximum value across all variables also appears in intellectual capital (X_2), reaching 1,049.9, suggesting that some firms excel significantly in leveraging knowledge-based assets. On the other hand, the lowest minimum value is found in the dependent variable, financial performance (Y), with a value of -0.246, indicating that some firms experienced negative returns during the observation period. These descriptive figures offer an initial insight into the data distribution and highlight which variables exhibit the most extreme variations within the sample.

Normality Test

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A normality test was conducted to ensure that the independent variables are approximately normally distributed. After testing, several variables were found to be non-normally distributed, so a transformation using the rank-based inverse normal transformation (INT) was applied. This transformation converts the ranked data into scores with a normal distribution so that the data can meet the normality assumption required for subsequent analyses. The following are the results of the normality test of the independent variables:

Table 2. Normality Test with Rank-Based Inverse Normal Transform

Skewness and kurtosis tests for normality					
				Joint Test	
Variable	**Obs**	**Pr(skewness)**	**Pr(kurtosis)**	**Adj chi2(2)**	**Prob>chi2**
y	63	0.0197	0.4618	5.69	0.0581
x1	63	0.8741	0.0284	4.81	0.0904
nsx2	63	1.0000	0.5468	0.37	0.8320
x3	63	0.0711	0.2275	4.72	0.0946
nsx4	63	0.3322	0.4649	1.53	0.4652
nsx5	63	0.1762	0.0683	5.06	0.0797
nsx6	63	0.2933	0.1562	3.26	0.1960
nsx7	63	0.9188	0.4393	0.62	0.7323
x8	63	0.7023	0.1515	2.30	0.3170

Source: data processed by researchers, 2025

The table shows that all independent variables are normally distributed after the transformation. With the application of INT, previously non-normal variables can now be processed using statistical methods that require normality, ensuring more valid and reliable analytical results.

Multicollinearity Test

To ensure the reliability of the regression results, a multicollinearity test was performed to check whether any of the independent variables were too closely related to one another. This was done by calculating the Variance Inflation Factor (VIF) for each variable, helping to identify and avoid issues that could distort the analysis.

Table 3. Multicollinearity Test

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Variable	VIF	1/VIF
x1	1.43	0.699414
nsx2	1.46	0.684530
x3	1.57	0.637141
nsx4	1.28	0.783172
nsx5	1.35	0.738570
nsx6	1.93	0.517264
nsx7	1.22	0.819807
x8	1.52	0.659463
Mean VIF	**1.47**	

Source: data processed by researchers, 2025

The results show that the highest VIF value is 1.93 and the lowest is 1.22, with an average of 1.47. According to Gujarati and Porter (2009), a VIF value below 10 indicates no significant correlation among independent variables, suggesting that the regression model does not suffer from multicollinearity issues.

Heteroscedasticity Test

The heteroscedasticity test was conducted to detect any unequal variance of residuals across observations in the model. If heteroscedasticity is present, the assumption of homoscedasticity in classical linear regression is violated, potentially resulting in inaccurate standard errors and biased t and F tests. Therefore, this test is crucial to ensure the validity of regression estimates.

Table 4. Heteroscedasticity Test

Breusch-Pagan Test	Significance Results
Prob>chi2 > 0.05 or < 0.05	0.2130

Source: data processed by researchers, 2025

The Breusch-Pagan Test was used, and the result shows a p-value of 0.2130, which is greater than 0.05, indicating that the regression model does not contain signs of heteroscedasticity.

Autocorrelation Test

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The autocorrelation test aims to detect any correlation between the residuals of one observation and those of another within the regression model. If autocorrelation is present, the basic assumption of residual independence in classical linear regression is violated, leading to biased parameter variance and affecting the accuracy of statistical tests such as the t and F tests.

Table 5. Autocorrelation Test

Test of Cross-sectional Dependence	**Hasil Signifikansi**
Nilai p > 0.05 atau < 0.05	0.000

Source: data processed by researchers, 2025

Pesaran's test for cross-sectional dependence produced a test statistic of 5.416 and a p-value of 0.0000. Because the p-value is below the 5% significance level (α = 0.05), it indicates the presence of autocorrelation in the panel data. To overcome this issue, the regression analysis in this study is conducted using the Random Effects model combined with cluster-robust standard errors, ensuring that the findings remain accurate and trustworthy.

T Test

The significance of each independent variable's individual influence on the dependent variable was assessed through a t-test (Nandita et al., 2019). After performing various model selection, the Random Effect Model (REM) was identified as the most suitable estimation approach.

Table 6. Random Effect Model with *Cluster-Robust Standard Error*

Random-effects GLS regression				Number of obs	=	63
				Number of groups	=	21
				Wald chi2(8)	=	25.64
				Prob > chi2	=	0.0012

y	**Coefficient**	**Robust Std. err.**	**Z**	**P>|z|**	**[95% conf.interval]**	
x1	-.0150464	.0124973	-1.20	0.229	-.0395407	.0094479
nsx2	.1275301	.0394681	3.23	0.001	.0501741	.2048862
x3	-.004145	.019966	-0.21	0.836	-.0432777	.0349877
nsx4	-.0295249	.0101943	-2.90	0.004	-.0495054	-.0095444

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nsx5	.0148538	.0196267	0.76	0.449	-.0236138	.0533214
nsx6	.0721013	.022357	3.23	0.001	.0282825	.1159201
nsx7	-.0550751	.019669	-2.80	0.005	-.0936257	-.0165246
x8	-.0011077	.0088572	-0.13	0.900	-.0184675	.0162522
_cons	.2786124	.2909646	0.96	0.338	-.2916677	.8488925
sigma_u	.1447347					
sigma_e	.06358907					
rho	.83820353 (fraction of variance due to u_i)					

Source: data processed by researchers, 2025

Based on the t-test results using the Random Effect Model and cluster-robust standard errors (Table 6), several independent variables were found to significantly influence corporate financial performance. Intellectual capital (X_2) and audit committee size (X_6) positively and significantly affect financial performance, while the proportion of independent commissioners (X_4) has a significant negative impact. The control variable leverage (C_1) also shows a notable negative influence. Conversely, environmental performance (X_1), board size (X_3), managerial ownership (X_5), and firm size (C_2) do not significantly influence financial performance.

F Test

The F-test is employed to assess the overall significance of the model, checking if all independent variables collectively have an effect on the dependent variable (Nandita et al., 2019).

Table 7. F Test

Uji F	Hasil Signifikansi
Prob > F	0.0012

Source: data processed by researchers, 2025

The F-test results, with a probability value of 0.0012, indicate that the random effects regression model is significant overall. This means that the independent variables together have a meaningful impact on the dependent variable.

Coefficient of Determination (R^2) Test

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The ability of a regression model to explain changes in the dependent variable through its independent variables is measured by the coefficient of determination (R^2). When this value is near 1, it reflects a high explanatory power of the model (Nandita et al., 2019).

Table 8. Coefficient of Determination (R^2) Test

R-squared	Hasil Signifikansi
Within	0.5481

Source: data processed by researchers, 2025

Based on Table 8, the R^2 (within) value is 0.5481 or 54.81%, indicating that the model explains approximately 54.81% of the variation in financial performance over time through the independent variables used. The remaining 45.19% represents variation not explained by the model and is likely influenced by other factors outside the scope of this study.

Environmental Performance on Financial Performance

The test results showed a significance value of 0.229 ($p > 0.05$), which is consistent with the studies by Putri et al. (2024) and Santika et al. (2023), indicating that environmental performance does not significantly impact financial performance. Therefore, the first hypothesis is rejected. This may be due to the PROPER assessment method being less attractive to investors, resulting in limited capital and disrupted operations. The positive impact of environmental performance is typically observed in the long term, as it helps build trust that can enhance sales and profitability (Putri et al., 2024).

Intellectual Capital on Financial Performance

The test findings indicate that intellectual capital significantly influences financial performance ($p = 0.001 < 0.05$), and thus the hypothesis is accepted. This reflects the company's ability to leverage knowledge and skills to enhance profitability (Wardifa, 2022) and is consistent with previous studies (Barak & Sharma, 2024; Himmah et al., 2024). This finding supports the Resource-Based Theory, which emphasizes the importance of intangible assets in creating competitive advantage (Wernerfelt, 1984).

Board Size on Financial Performance

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The board size variable has a significance value of 0.836 ($p > 0.05$), indicating no significant effect on financial performance. This result is in line with Sifananda et al. (2024), who concluded that the number of board members does not necessarily contribute directly to improved financial performance. Although the board of commissioners plays a supervisory role over management, its effectiveness is not solely determined by the number of members, but by the quality of the oversight provided. According to agency theory (Jensen et al., 1976), conflicts between owners and managers can arise due to goal misalignment and information asymmetry, so more substantial monitoring mechanisms are needed rather than merely increasing board size.

Independent Commissioners on Financial Performance

The significance value of 0.004 ($p < 0.05$) indicates that the hypothesis is accepted, but the effect is negative. This finding aligns with the research conducted by Hidayat et al. (2025), which revealed a significantly negative impact of independent commissioners on financial performance. This may be explained by coordination and decision-making challenges that arise due to the diversity in the backgrounds and experiences of independent commissioners (Hidayat et al., 2025). Agency theory suggests that independent commissioners should reduce conflicts between principals and agents through objective oversight (Jensen et al., 1976), but without sufficient capacity and involvement, this function becomes ineffective.

Managerial Ownership on Financial Performance

The managerial ownership variable shows a significance value of 0.449 ($p > 0.05$), indicating that the hypothesis stating managerial ownership impacts financial performance is rejected. This result is consistent with the findings of Febrina and Sri (2022), who similarly reported that managerial ownership does not significantly affect financial performance. This may be due to the low proportion of shares held by management, resulting in a weaker sense of ownership and greater motivation to pursue personal interests rather than those of the shareholders (Febrina & Sri, 2022). Such a condition leads to poor management performance, which in turn reduces overall company performance.

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Audit Committee Size on Financial Performance

The significance value for the audit committee size variable is 0.001 ($p < 0.05$), indicating that the hypothesis is accepted. This result aligns with the findings of several earlier studies (Arimby & Astuti, 2023; Shanti, 2020; Sibuea & Setiawati, 2020). The audit committee contributes significantly to enhancing financial performance by ensuring proper management and building trust among investors (Arimby & Astuti, 2023). In addition, effective oversight by the audit committee contributes to better quality financial reporting. From a theoretical perspective, improved performance of the audit committee is associated with enhanced financial performance of the company (Sibuea & Setiawati, 2020). Agency theory suggests that the audit committee acts as an oversight mechanism to help mitigate conflicts of interest that may arise between managers and shareholders (Jensen et al., 1976). Increasing the number of audit committee members is believed to strengthen the oversight function, provided that the members are independent, competent, and actively involved in the supervisory process.

CONCLUSSION

This research analyzes the financial performance of energy sector companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2023 period, with an emphasis on the impact of environmental performance, intellectual capital, and corporate governance. All variables were simultaneously shown to significantly impact financial performance, highlighting the importance of integrating sustainability aspects, intellectual resources, and governance practices in supporting financial achievement. Partially, intellectual capital and the number of audit committee members showed a positive and significant impact. This affirms that effective management of intellectual assets and a strong audit function contribute to improved profitability and corporate accountability. However, limitations related to environmental performance data and the study's time frame posed certain challenges. Therefore, future research is recommended to expand the scope of sectors and extend the observation period to produce more comprehensive results and enable cross-industry comparisons.

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