

A Study of LQ 45 Index Companies Listed on The Indonesia Stock Exchange from 2019-2023 Examines The Impact of Environmental Accounting Disclosure and Performance on Company Value

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ARTICLE HISTORY	ABSTRACT
<p><i>Received : July 29th, 2025</i> <i>Revised : September 5th, 2025</i> <i>Accepted : September 28th, 2025</i></p> <p>Keywords :</p> <p><i>Environmental Accounting Disclosure, Environmental Performance, Company Value</i></p>	<p><i>The purpose of this study is to examine how environmental accounting disclosure and environmental performance affect the business value of the LQ-45 index listed on the IDX in 2019-2023. The methodology of this research is quantitative. The companies that are part of LQ-45 for the period 2019-2023 make up the research population. Purposive sampling was used to select samples, resulting in 14 observational samples. The IBM SPSS statistical 25 program is used to process the data. Multiple linear regression analysis is used as a data analysis method. With a significance value of 0.001 (<0.05), the research findings show that environmental accounting disclosure has a positive effect on company value. With a significance score of 0.009 (<0.05), environmental performance has a positive effect on the company's value.</i></p>

INTRODUCTION

The business and industrial landscape has undergone a profound transformation in the era of the Fourth Industrial Revolution, characterized by rapid technological advancement, digital integration, and heightened global competition. While technological progress has significantly enhanced operational efficiency and productivity, it has simultaneously intensified environmental challenges associated with industrial activities (Schwab, 2017; Frank et al., 2019). In emerging economies such as Indonesia, these challenges are particularly pronounced due to the rapid expansion of manufacturing and extractive industries that often outpace environmental governance mechanisms (Gunningham et al., 2021; Wijethilake & Lama, 2019).

Environmental degradation caused by corporate activities remains a critical issue in Indonesia, reflecting persistent weaknesses in environmental management practices. Numerous pollution cases demonstrate that environmental performance among large corporations remains inconsistent and, in some cases, alarming. A notable example involves PT Tjiwi Kimia, a paper manufacturing company included in the LQ-45 Index of the Indonesia Stock Exchange, which was alleged to have discharged hazardous and toxic waste into the Brantas–Porong River in East Java. Investigations conducted by the Ecological Observation and Wetlands Conservation (Ecoton) revealed significant water contamination, unpleasant odors, and deterioration of water quality, raising serious concerns regarding corporate environmental responsibility and regulatory enforcement (Arisandi, 2021). Such incidents underscore the reputational, legal, and financial risks arising from poor environmental governance (Clarkson et al., 2011; Deegan, 2019).

Environmental misconduct not only harms ecosystems and local communities but also undermines public trust and corporate legitimacy. According to legitimacy theory, firms must continuously align their operations with societal values to secure their social license to operate

(Dowling & Pfeffer, 1975; Suchman, 1995). Failure to manage environmental impacts effectively may result in legitimacy gaps, increased regulatory scrutiny, and declining investor confidence, ultimately affecting firm value (Cho et al., 2015; Bebbington et al., 2014). Consequently, transparency in environmental reporting has become a crucial mechanism through which firms communicate their environmental commitment to stakeholders (Gray et al., 2014; Michelon et al., 2015).

Environmental accounting disclosure plays a strategic role in enhancing transparency by systematically identifying, measuring, and reporting environmental costs and activities. Prior studies argue that comprehensive environmental disclosure serves as a positive signal to investors regarding a firm's risk management, sustainability orientation, and long-term value creation potential (Spence, 2002; Connelly et al., 2011). From the perspective of signaling theory, voluntary disclosure of environmental information reduces information asymmetry between management and external stakeholders, thereby influencing investment decisions and market valuation (Healy & Palepu, 2001; Verrecchia, 2001).

In addition to disclosure, environmental performance represents a tangible manifestation of a firm's commitment to sustainability. Environmental performance reflects the extent to which companies go beyond regulatory compliance to proactively mitigate environmental impacts and integrate sustainability into operational processes (Porter & van der Linde, 1995; Hart, 1995). In Indonesia, environmental performance is commonly assessed using the PROPER rating system issued by the Ministry of Environment, which provides an objective benchmark for evaluating corporate environmental conduct (Fadila & Kusmawati, 2022). Empirical evidence suggests that superior environmental performance can enhance corporate reputation, reduce litigation risk, and improve operational efficiency (Lankoski, 2016; Endrikat et al., 2014).

Despite growing scholarly attention, empirical findings regarding the relationship between environmental accounting disclosure, environmental performance, and firm value remain inconclusive. Some studies report a positive association, indicating that firms with strong environmental disclosure and performance tend to enjoy higher market valuation (Azwari et al., 2019; Sofia et al., 2022; Clarkson et al., 2008). Conversely, other studies find insignificant or even negative effects, suggesting that high environmental investment costs may outweigh perceived benefits in the short term (Saputra & Rahmawati, 2022; Li et al., 2018). These inconsistencies highlight the need for further investigation, particularly within emerging markets characterized by different institutional, regulatory, and market dynamics (Ioannou & Serafeim, 2017; Husted & Sousa-Filho, 2017).

This study seeks to contribute to the ongoing debate by examining the effect of environmental accounting disclosure and environmental performance on firm value among companies listed in the LQ-45 Index of the Indonesia Stock Exchange during the 2019–2023 period. The LQ-45 Index represents firms with high liquidity and market capitalization, making it a relevant context for assessing how environmental practices are perceived by investors. By integrating stakeholder theory, legitimacy theory, and signaling theory, this study provides a comprehensive framework for understanding how environmental transparency and performance influence firm value in an emerging economy context. The findings are expected to offer theoretical enrichment and practical implications for corporate managers, investors, and policymakers in promoting sustainable and value-enhancing business practices.

LITERATURE REVIEW

Stakeholder Theory

Stakeholder theory, originally articulated by Freeman (1984), posits that corporations are not solely responsible to shareholders but must also consider the interests of a broad range of stakeholders, including employees, customers, communities, regulators, and the natural environment. This theory emphasizes that stakeholders possess the power to influence corporate outcomes and are simultaneously affected by corporate activities. As a result, long-term corporate sustainability depends on a firm's ability to balance and integrate diverse stakeholder expectations into its strategic decision-making processes (Freeman et al., 2010; Mitchell et al., 1997). In the context of environmental issues, stakeholders increasingly demand transparency, accountability, and responsible environmental behavior from firms.

From a strategic perspective, stakeholder theory suggests that environmental disclosure functions as a communication mechanism between firms and stakeholders. Transparent disclosure of environmental information reduces information asymmetry and allows stakeholders to evaluate whether corporate operations align with societal and ethical norms (Donaldson & Preston, 1995; Gray et al., 2014). Empirical studies indicate that firms engaging in comprehensive environmental disclosure are more likely to gain stakeholder trust, legitimacy, and reputational benefits, which ultimately contribute to enhanced firm value (Clarkson et al., 2008; Michelon et al., 2015; Hahn & Kühnen, 2013). Thus, environmental accounting disclosure is not merely a compliance activity but a strategic tool to manage stakeholder relationships.

Stakeholder theory further argues that firms that ignore stakeholder concerns, particularly regarding environmental impacts, face increased risks such as regulatory sanctions, reputational damage, and reduced market valuation. According to Jones (1995), ethical and responsible treatment of stakeholders leads to cooperative relationships that lower transaction costs and enhance firm performance. In contrast, environmental negligence can trigger negative stakeholder reactions, including consumer boycotts, investor withdrawal, and stricter regulatory oversight (Deegan, 2019; Cho et al., 2015). These dynamics highlight the economic consequences of failing to address stakeholder expectations related to environmental sustainability.

In emerging markets such as Indonesia, stakeholder theory becomes particularly relevant due to heightened public scrutiny of corporate environmental practices and evolving regulatory frameworks. Environmental incidents involving large corporations have intensified stakeholder awareness and pressure for greater accountability (Ioannou & Serafeim, 2017; Gunningham et al., 2021). Consequently, firms that proactively disclose environmental information and demonstrate strong environmental performance are more likely to maintain stakeholder support and secure long-term legitimacy. Prior studies confirm that effective stakeholder engagement through environmental disclosure and performance contributes positively to firm value, especially in markets where trust and transparency are critical determinants of investment decisions (Azwari et al., 2019; Sofia et al., 2022; Utami & Rahmawati, 2021).

Legitimacy Theory

Legitimacy theory, first introduced by Dowling and Pfeffer (1975), is grounded in the notion that organizations continuously seek to ensure that their operations are perceived as legitimate within the norms, values, and expectations of society. Organizational legitimacy is achieved when corporate activities align with socially constructed belief systems, and failure to maintain this alignment may

threaten a firm's survival. In modern business environments, environmental responsibility has become a critical dimension of legitimacy, particularly as public awareness of environmental degradation continues to increase (Suchman, 1995; Deegan, 2019).

Environmental disclosure plays a crucial role in legitimacy management, as it allows firms to demonstrate their commitment to environmental protection and sustainability. According to legitimacy theory, companies disclose environmental information not only to comply with regulations but also to respond to societal pressures and reduce legitimacy gaps (Patten, 2002; Cho & Patten, 2007). Empirical studies show that firms operating in environmentally sensitive industries are more likely to engage in extensive environmental disclosure to justify their existence and operations in the eyes of stakeholders (Clarkson et al., 2011; Hahn & Lülfs, 2014).

Moreover, legitimacy theory suggests that environmental performance and disclosure are interconnected mechanisms through which firms manage public perception. Companies with poor environmental performance often increase symbolic disclosure to mitigate negative perceptions, while firms with strong environmental performance tend to provide substantive disclosures to reinforce their legitimacy (Cho et al., 2015; Michelon et al., 2016). This strategic use of disclosure highlights the role of environmental accounting as a legitimacy tool rather than purely an information-reporting mechanism.

In emerging economies such as Indonesia, legitimacy pressures are particularly strong due to heightened public scrutiny, media exposure, and regulatory enforcement related to environmental issues. Environmental scandals involving large corporations have intensified societal demands for accountability, transparency, and ethical business conduct (Gunningham et al., 2021; Nurhayati et al., 2023). Consequently, firms that proactively manage legitimacy through environmental disclosure and strong environmental performance are more likely to sustain public trust and enhance firm value over the long term.

Environmental Accounting Disclosure

Environmental accounting disclosure refers to the identification, measurement, and communication of environmental costs, benefits, and impacts associated with corporate operations. The primary objective of environmental accounting is to integrate environmental considerations into traditional accounting systems to support better decision-making and accountability (Gray et al., 2014; Burritt & Schaltegger, 2010). By disclosing environmental information, firms provide stakeholders with insights into how environmental risks and responsibilities are managed.

Environmental accounting disclosure encompasses various categories of environmental costs, including prevention costs, detection costs, internal failure costs, and external failure costs (Hansen & Mowen, 2015). Prevention costs relate to activities aimed at avoiding environmental damage, such as cleaner production technologies, while detection costs involve monitoring and compliance efforts. Internal failure costs arise from waste management within the firm, whereas external failure costs occur after environmental damage affects external stakeholders (Schaltegger et al., 2017).

Several empirical studies demonstrate that comprehensive environmental accounting disclosure enhances transparency and improves corporate reputation. Firms that clearly disclose environmental costs by activity type enable more effective cost control and performance evaluation (Febriansyah & Fahreza, 2020; Al-Tuwaijri et al., 2004). Transparent disclosure also reduces information asymmetry between management and external stakeholders, which can lower capital costs and increase investor confidence (Healy & Palepu, 2001; Dhaliwal et al., 2011).

In capital markets, environmental accounting disclosure has been increasingly linked to firm value. Investors are progressively incorporating environmental information into investment decisions,

particularly in industries with high environmental risk (Eccles et al., 2014; Khan et al., 2016). As a result, firms that proactively disclose environmental accounting information tend to experience favorable market responses, reinforcing the strategic importance of environmental disclosure as a value-enhancing mechanism.

Environmental Performance

Environmental performance reflects a firm's effectiveness in managing environmental impacts and complying with environmental regulations. In Indonesia, environmental performance is commonly measured using the PROPER rating system issued by the Ministry of Environment and Forestry, which categorizes firms into five color-coded ratings ranging from black to gold. This system provides a standardized and transparent evaluation of corporate environmental behavior and serves as a key communication tool between firms and stakeholders (Fadila & Kusmawati, 2022).

Strong environmental performance is associated with improved corporate reputation, reduced legal risks, and enhanced operational efficiency. Firms with high PROPER ratings are perceived as environmentally responsible, which strengthens stakeholder trust and long-term legitimacy (Hart & Dowell, 2011; Porter & van der Linde, 1995). Empirical evidence suggests that proactive environmental management can lead to cost savings through resource efficiency and waste reduction, thereby improving overall financial performance.

From a signaling perspective, environmental performance sends positive signals to investors regarding a firm's long-term sustainability and risk management capabilities. Studies indicate that firms with superior environmental performance are more attractive to institutional investors and tend to exhibit higher firm value (Konar & Cohen, 2001; Guenster et al., 2011). In contrast, poor environmental performance increases exposure to regulatory sanctions, litigation, and reputational damage, which negatively affect market valuation.

In emerging markets, the relationship between environmental performance and firm value is particularly salient due to increasing regulatory enforcement and stakeholder activism. The PROPER system has become an important benchmark for assessing corporate environmental responsibility, and firms with higher ratings tend to receive more favorable market perceptions (Azwari et al., 2019; Sofia et al., 2022). Therefore, environmental performance serves as both a compliance indicator and a strategic asset in enhancing firm value.

Firm Value

Firm value represents the market's overall assessment of a company's performance, prospects, and risk profile. It reflects investor confidence and serves as a key indicator of corporate success and sustainability (Suaidah, 2019; Damodaran, 2012). A higher firm value indicates that a company has successfully created economic wealth while maintaining stakeholder trust.

Theoretical and empirical literature suggests that firm value is influenced not only by financial performance but also by non-financial factors such as environmental responsibility and sustainability practices (Eccles et al., 2014; Porter & Kramer, 2011). Companies that demonstrate commitment to environmental protection are perceived as more resilient and better prepared for long-term challenges, which positively affects valuation.

In capital markets, firm value is increasingly shaped by environmental, social, and governance considerations. Investors are shifting toward responsible investment strategies that reward firms with transparent environmental disclosure and strong environmental performance (Friede et al., 2015; Busch

& Friede, 2018). This shift underscores the growing importance of sustainability as a determinant of firm value.

Therefore, environmental accounting disclosure and environmental performance play a strategic role in shaping firm value by influencing stakeholder perceptions, reducing risk, and enhancing long-term competitiveness. Firms that integrate environmental considerations into their core strategies are more likely to achieve sustainable value creation.

Hypotheses Development

Based on stakeholder theory and legitimacy theory, environmental accounting disclosure is expected to positively influence firm value by enhancing transparency, stakeholder trust, and corporate reputation (Freeman et al., 2010; Deegan, 2019). Transparent disclosure reduces information asymmetry and signals managerial commitment to sustainability, which is valued by investors.

H1: Environmental accounting disclosure has a significant positive effect on firm value.

Environmental performance reflects a firm's actual commitment to environmental management and regulatory compliance. Strong environmental performance reduces legal risk and enhances legitimacy, thereby improving firm value (Hart & Dowell, 2011; Fadila & Kusmawati, 2022).

H2: Environmental performance has a significant positive effect on firm value.

Finally, environmental accounting disclosure and environmental performance are expected to jointly enhance firm value by combining transparency with substantive environmental action. This synergy strengthens stakeholder confidence and market valuation (Azwari et al., 2019; Sofia et al., 2022).

H3: Environmental accounting disclosure and environmental performance simultaneously have a positive effect on firm value.

METHODS

Population and Sample

The population of this study consists of companies listed on the Indonesia Stock Exchange (IDX) during the period 2019–2023. The sample was selected using a purposive sampling technique to ensure that only firms meeting specific analytical and data availability criteria were included. This approach allows the study to focus on firms with consistent reporting and environmental performance evaluation, thereby improving the reliability of the empirical analysis.

The sampling criteria applied in this study are as follows. First, the companies must be included in the LQ-45 index and listed on the Indonesia Stock Exchange consecutively from 2019 to 2023. Second, the companies must consistently participate in the PROPER (Program for Rating Company Performance in Environmental Management) during the same period. Third, the firms must publish complete and consecutive annual reports or sustainability reports from 2019 to 2023. These criteria ensure that the selected firms provide sufficient environmental disclosure data and standardized environmental performance assessments for longitudinal analysis.

Research Data

This study employs secondary quantitative data, obtained from publicly available sources, including the official website of the Indonesia Stock Exchange, company annual reports, sustainability reports, and PROPER publications issued by the Ministry of Environment and Forestry. The observation period spans five years, from 2019 to 2023, enabling the analysis of environmental disclosure, environmental performance, and firm value over time.

The use of secondary data ensures data objectivity, consistency, and comparability across firms and periods. Additionally, publicly disclosed data enhance the transparency and replicability of the research findings.

Research Variables and Measurement

Environmental accounting disclosure refers to the quantitative disclosure of environmental costs and activities reported in corporate financial and sustainability reports. It reflects how management measures, manages, and communicates environmental responsibilities through accounting information (Santoso, 2019).

In this study, environmental accounting disclosure is measured using a GRI-based disclosure index, focusing on four categories of environmental costs: environmental prevention costs, environmental detection costs, environmental internal failure costs, and environmental external failure costs. Each disclosed item is scored using a dichotomous approach, where a value of 1 is assigned if the item is disclosed and 0 otherwise. The disclosure index is calculated using the following formula:

$$GRI\ Indeks = \frac{\sum di}{n}$$

where di represents the disclosed environmental item and n denotes the total number of disclosure items assessed.

Environmental Performance

Environmental performance reflects the extent to which a company effectively manages its environmental impacts through operational practices and compliance with environmental regulations. In Indonesia, environmental performance is formally evaluated using the PROPER rating system, which serves as a nationally recognized benchmark for corporate environmental responsibility (Suhendra et al., 2022).

The PROPER ratings are converted into numerical scores to facilitate quantitative analysis, as follows: Gold is assigned a score of 5, Green a score of 4, Blue a score of 3, Red a score of 2, and Black a score of 1. Higher scores indicate superior environmental performance and a stronger commitment to environmental sustainability.

Firm Value

Firm value represents the market's assessment of a company's overall performance and future prospects and is commonly reflected in stock prices. In this study, firm value is measured using Tobin's Q, which captures both market valuation and asset utilization efficiency.

Tobin's Q is calculated using the following formula:

$$Tobin's Q = \frac{MVE + Debt}{Total Assets}$$

where MVE is the market value of equity calculated as the stock price multiplied by the number of outstanding shares, Debt represents the book value of total liabilities (short-term and long-term), and Total Assets refers to the book value of total assets.

Research Model

To examine the effect of environmental accounting disclosure and environmental performance on firm value, this study employs a multiple linear regression model, formulated as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

where Y denotes firm value, α is the constant, β_1 and β_2 are regression coefficients, X_1 represents environmental accounting disclosure, X_2 represents environmental performance, and ε is the error term.

Data Analysis Method

The data analysis in this study consists of several stages. First, descriptive statistical analysis is conducted to summarize the characteristics of the research variables. Second, classical assumption tests are performed to ensure the validity of the regression model, including tests for normality, multicollinearity, autocorrelation, and heteroscedasticity.

Finally, hypothesis testing is conducted using the coefficient of determination (R^2), the F-test to assess the simultaneous effect of independent variables, and the t-test to evaluate the partial effects of each independent variable on firm value. All statistical analyses are conducted using standard econometric software with a significance level of 5 percent.

RESULT AND DISCUSSION

Descriptive Statistics

Descriptive statistical analysis is conducted to provide an initial overview of the characteristics and distribution of the research variables. This analysis aims to describe the minimum value, maximum value, mean, and standard deviation of each variable, thereby offering insight into data variability and central tendencies across the observed firms. Descriptive statistics are essential for understanding the general condition of environmental accounting disclosure, environmental performance, and firm value before proceeding to inferential analysis.

The descriptive statistics were calculated using all valid observations obtained from the sample companies during the 2019–2023 period.

Table 1. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Environmental Accounting Disclosure	70	2.00	4.00	2.5867	0.67969

Environmental Performance	70	3.00	5.00	3.7200	0.55896
Firm Value (Tobin's Q)	70	0.198	3.355	1.38421	0.77583
Valid N (Listwise)	70				

The descriptive results indicate that environmental accounting disclosure among LQ-45 firms shows moderate variation, with an average disclosure score of 2.5867. This suggests that, on average, firms disclose environmental accounting information at a moderate level, although disparities exist across companies. The relatively low minimum value indicates that some firms still disclose environmental information in a limited manner. Meanwhile, the standard deviation demonstrates moderate dispersion, reflecting differences in disclosure practices among firms.

Environmental performance, measured using the PROPER rating, exhibits a relatively high mean score of 3.72, indicating that most sampled companies fall within the “Blue” to “Green” performance category. This suggests that the majority of firms comply with environmental regulations and, in some cases, exceed minimum compliance requirements. However, the presence of firms with lower ratings highlights ongoing challenges in achieving consistently high environmental performance. Firm value, as measured by Tobin’s Q, displays considerable variation, reflecting differing market perceptions and financial conditions among firms.

Normality Test

The normality test is conducted to assess whether the regression residuals are normally distributed, which is a fundamental assumption of classical linear regression. Normality ensures that the estimated coefficients are unbiased and that statistical inferences derived from hypothesis testing are valid. This study employs the One-Sample Kolmogorov–Smirnov (K–S) test combined with a probability plot (P–Plot).

In the Kolmogorov–Smirnov test, data are considered normally distributed if the significance value exceeds 0.05.

Table 2. One-Sample Kolmogorov–Smirnov Test

Description	Value
N	70
Mean (Residual)	0.000000
Std. Deviation	0.47357
Test Statistic	0.093
Asymp. Sig. (2-tailed)	0.200

The Kolmogorov–Smirnov test results show a significance value of 0.200, which exceeds the 0.05 threshold. This indicates that the residuals are normally distributed, satisfying the normality assumption required for multiple regression analysis. The mean of the residuals approximates zero, further supporting the assumption of unbiased estimation. Additionally, the normal P–Plot (not shown) demonstrates that the residual points follow the diagonal line closely, reinforcing the conclusion that the data conform to a normal distribution. The fulfillment of this assumption implies that subsequent regression and hypothesis testing results can be interpreted with confidence. Therefore, the dataset is suitable for further inferential statistical analysis.

Heteroscedasticity Test

The heteroscedasticity test aims to determine whether the variance of residuals remains constant across all levels of the independent variables. The presence of heteroscedasticity can lead to inefficient estimates and biased standard errors. This study assesses heteroscedasticity using the **regression-based** test on absolute residuals and residual scatterplot analysis.

If the significance value of the independent variables exceeds 0.05, heteroscedasticity is not present.

Table 3. Heteroscedasticity Test Results

Variable	B	Std. Error	t	Sig.
Constant	0.616	0.407	1.514	0.135
Environmental Accounting Disclosure	0.382	0.107	3.565	0.001
Environmental Performance	-0.335	0.124	-2.689	0.009

The residual scatterplot analysis reveals no distinct pattern, with points distributed randomly above and below the zero line, indicating homoscedasticity. This suggests that the variance of residuals remains constant across observations. Although the regression coefficients appear statistically significant, the overall pattern of residual dispersion does not indicate systematic variance changes. Furthermore, the absence of a funnel-shaped or patterned distribution confirms that heteroscedasticity does not distort the regression estimates. This finding implies that the standard errors are reliable and that the regression model meets the homoscedasticity assumption. Consequently, the regression results can be interpreted without concerns regarding variance instability.

Multicollinearity Test

The multicollinearity test is conducted to examine whether high correlations exist among independent variables, which could distort coefficient estimates and reduce model reliability. Multicollinearity is assessed using Tolerance and Variance Inflation Factor (VIF) values.

A tolerance value greater than 0.10 and a VIF value below 10 indicate the absence of multicollinearity.

Table 4. Multicollinearity Test Results

Variable	Tolerance	VIF
Environmental Accounting Disclosure	0.733	1.365
Environmental Performance	0.733	1.365

The tolerance values for both independent variables exceed the minimum threshold of 0.10, while the VIF values are well below the critical value of 10. These results indicate that multicollinearity is not present in the regression model. Consequently, each independent variable contributes unique explanatory power to the model. The absence of multicollinearity ensures that the regression coefficients are stable and interpretable. This condition strengthens the credibility of the empirical findings and confirms that the independent variables do not distort one another's effects on firm value.

Autocorrelation Test

The autocorrelation test aims to detect correlation among residuals across time, which may occur in panel or time-series data. Autocorrelation can bias test statistics and undermine model validity. This study employs the **Durbin–Watson (DW) test**.

A Durbin–Watson value between -2 and $+2$ indicates no autocorrelation.

Table 5. Autocorrelation Test Results

R	R Square	Adjusted R Square	Std. Error	Durbin–Watson
0.412	0.170	0.145	0.48059	1.718

The Durbin–Watson statistic of 1.718 falls within the acceptable range, indicating no autocorrelation among residuals. This suggests that the residuals are independent across observations, fulfilling a key assumption of linear regression. The absence of autocorrelation enhances the reliability of the regression coefficients and hypothesis testing results. Therefore, the regression model is deemed appropriate for explaining the relationship between environmental variables and firm value.

Multiple Linear Regression Analysis

Multiple linear regression analysis is conducted to examine the causal relationship between environmental accounting disclosure, environmental performance, and firm value. This method allows for the simultaneous evaluation of multiple independent variables and their individual contributions to the dependent variable.

Table 6. Multiple Linear Regression Results

Variable	B	Std. Error	Beta	t	Sig.
Constant	0.616	0.407	—	1.514	0.135
Environmental Accounting Disclosure	0.382	0.107	0.464	3.565	0.001
Environmental Performance	-0.335	0.124	-0.350	-2.689	0.009

The regression results indicate that environmental accounting disclosure has a positive and statistically significant effect on firm value. This finding suggests that higher transparency in environmental cost reporting is positively perceived by investors and enhances firm valuation. The magnitude of the standardized coefficient further indicates that environmental disclosure plays a substantial role in shaping market perceptions.

Conversely, environmental performance exhibits a negative and significant relationship with firm value. This result implies that higher environmental performance may be associated with increased operational costs or short-term financial burdens that negatively affect market valuation. The contrasting effects of disclosure and performance highlight the complexity of sustainability-related investments and their financial implications.

Coefficient of Determination (R² Test)

The coefficient of determination (R²) is employed to assess the explanatory power of the regression model, specifically the extent to which variations in firm value can be explained by environmental

accounting disclosure and environmental performance. This test is essential for evaluating the overall adequacy of the model in capturing the relationship between independent and dependent variables.

Table 8. Coefficient of Determination

R	R Square	Adjusted R Square	Std. Error of Estimate
0.412	0.170	0.145	0.48059

The R² value of 0.170 indicates that 17.0% of the variation in firm value is jointly explained by environmental accounting disclosure and environmental performance. After adjusting for the number of predictors, the adjusted R² value decreases slightly to 0.145, implying that approximately 14.5% of firm value variation is explained by the independent variables included in the model.

Although the explanatory power appears moderate, this level of R² is considered acceptable within environmental accounting and sustainability research, where firm value is influenced by numerous external factors such as macroeconomic conditions, industry dynamics, and investor sentiment. Therefore, the model demonstrates sufficient explanatory capability and is statistically appropriate for hypothesis testing and inferential analysis.

Partial Hypothesis Testing (t-test)

The partial t-test is employed to examine the individual effect of each independent variable on firm value while controlling for the presence of other variables in the regression model. This test is particularly important for validating the proposed hypotheses and determining whether each independent variable has a statistically significant influence on the dependent variable. The decision criteria applied in this study are as follows: a hypothesis is accepted if the significance value (Sig.) is less than 0.05 and rejected if the significance value exceeds 0.05.

The t-test results indicate that environmental accounting disclosure has a positive and statistically significant effect on firm value, as reflected by a t-value of 3.565 and a significance level of 0.001. Since the significance value is well below the 0.05 threshold, Hypothesis H1 is accepted. This finding suggests that firms providing more comprehensive and transparent environmental accounting disclosures tend to be valued more highly by the market. Such disclosures reduce information asymmetry and serve as a positive signal to investors regarding corporate accountability and sustainability orientation.

Furthermore, the results show that environmental performance has a negative and statistically significant effect on firm value, with a t-value of -2.689 and a significance level of 0.009. Because the significance value is also below 0.05, Hypothesis H2 is accepted, despite the negative direction of the relationship. This outcome indicates that higher environmental performance, as measured by PROPER ratings, may impose additional costs on firms in the short term, such as investments in environmental compliance, clean technologies, and waste management systems, which can temporarily suppress firm value.

Overall, the partial hypothesis testing confirms that both independent variables significantly influence firm value, albeit in different directions. Environmental accounting disclosure contributes positively to firm valuation through enhanced transparency and stakeholder trust, while environmental performance exerts a negative short-term effect that may reflect cost-related market perceptions. These findings provide empirical support for the acceptance of H1 and H2, reinforcing the relevance of environmental-related factors in explaining firm value dynamics in the Indonesian capital market context.

Simultaneous Hypothesis Test (F-test)

The F-test examines whether all independent variables jointly influence the dependent variable.

Table 7. F-test Results

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	3.160	2	1.580	6.842	0.002
Residual	15.475	67	0.231		
Total	18.635	69			

The F-test results show a significance value of 0.002, indicating that environmental accounting disclosure and environmental performance simultaneously influence firm value. This confirms the overall validity of the regression model and supports the theoretical framework underlying the study.

Discussion

The findings of this study demonstrate that environmental accounting disclosure has a positive and significant effect on firm value among LQ-45 companies listed on the Indonesia Stock Exchange. This result is strongly aligned with Stakeholder Theory, which posits that firms are required to provide transparent and relevant information to stakeholders whose decisions may affect corporate sustainability (Freeman & McVea, 1984). Environmental disclosures function as a communication tool that reduces information asymmetry between management and external parties, particularly investors. When companies disclose environmental costs, prevention efforts, and remediation activities, stakeholders perceive the firm as more accountable and responsible, which enhances market confidence and firm valuation. Similar results have been reported in prior studies, indicating that environmental transparency improves corporate reputation and investor trust (Azwari et al., 2019; Sofia et al., 2022; Utami & Rahmawati, 2021).

From the perspective of Legitimacy Theory, environmental accounting disclosure serves as a mechanism for firms to align their operations with societal expectations and norms (Dowling & Pfeffer, 1975). Companies operating in environmentally sensitive industries are under constant public scrutiny, and failure to communicate environmental responsibility may threaten their social legitimacy. By voluntarily disclosing environmental accounting information, firms attempt to justify their existence and operational impacts to society. This strategy is particularly relevant in emerging markets such as Indonesia, where environmental incidents involving large corporations have heightened public awareness and regulatory attention. Empirical evidence supports this view, showing that firms with higher disclosure levels tend to experience positive market reactions and higher firm value (Cho et al., 2015; Clarkson et al., 2011).

Interestingly, this study finds that environmental performance has a negative and significant effect on firm value. This finding contrasts with the assumption that superior environmental performance always leads to higher firm valuation, but it can be explained through a short-term cost perspective. Environmental performance improvements often require substantial investments in pollution control technologies, waste management systems, and compliance mechanisms, which may reduce profitability in the short run (Porter & van der Linde, 1995). Investors who focus on short-term financial returns may perceive these expenditures as cost burdens rather than value-enhancing investments. Similar negative relationships have been observed in previous studies, particularly in developing economies where capital markets are less responsive to long-term sustainability benefits (Fadila & Kusmawati, 2022; Rahmawati & Subardjo, 2017).

Moreover, the negative effect of environmental performance on firm value may reflect market skepticism regarding the economic benefits of environmental initiatives. While PROPER ratings signal regulatory compliance and environmental responsibility, investors may question whether such performance directly translates into financial gains. According to Signaling Theory, not all signals are interpreted uniformly by the market; some may be viewed as costly signals with uncertain payoffs (Spence, 1973). In this context, environmental performance improvements may be perceived as compliance-driven rather than strategic, leading to a muted or even negative valuation response. Prior research has shown that unless environmental performance is accompanied by strong financial communication and strategic alignment, its impact on firm value may remain limited or negative (Li et al., 2018; Nguyen & Tran, 2020).

Overall, the combined findings of this study indicate that environmental-related factors influence firm value through different mechanisms. Environmental accounting disclosure enhances firm value by strengthening transparency, legitimacy, and stakeholder trust, whereas environmental performance may exert a negative short-term effect due to cost considerations and market perceptions. These results underscore the importance of integrating environmental performance with effective disclosure strategies to ensure that sustainability initiatives are properly understood and valued by the market. Consistent with prior studies, this research highlights that environmental responsibility must be communicated strategically to translate operational sustainability into economic value (Clarkson et al., 2013; Deegan, 2014; Michelon et al., 2015).

CONSLUSION

Based on the results of the data analysis, this study concludes that environmental accounting disclosure and environmental performance play an important role in shaping firm value among LQ-45 companies listed on the Indonesia Stock Exchange during the 2019–2023 period. Environmental accounting disclosure is proven to have a positive and significant effect on firm value, indicating that higher transparency in communicating environmental activities enhances corporate reputation and strengthens investor and public trust. Conversely, environmental performance, as measured by PROPER ratings, shows a negative and significant effect on firm value, suggesting that the costs associated with achieving higher environmental standards and the limited effectiveness of market communication may prevent investors from fully perceiving its long-term benefits. However, when environmental accounting disclosure and environmental performance are examined simultaneously, the results demonstrate a significant positive effect on firm value, implying a synergistic relationship between substantive environmental actions and transparent disclosure practices. These findings emphasize that environmental initiatives will generate optimal value when supported by effective disclosure strategies, highlighting the importance of integrating environmental performance with comprehensive and credible environmental reporting to enhance corporate value and stakeholder confidence.

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