



The Influence of Environmental Performance and Environmental Costs on Firm Value with Corporate Social Responsibility Disclosure as a Moderating Variable

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Abstract In the contemporary business environment, the growing emphasis on sustainable development and environmental responsibility has fundamentally transformed how companies approach value creation, with stakeholders increasingly demanding transparency regarding environmental impacts and corporate social responsibility initiatives as key determinants of investment decisions and long-term business viability. The purpose of this study is to determine the effect of environmental performance and environmental costs on company value with corporate social responsibility disclosure as a moderating variable. The population of companies comprises manufacturing companies listed on the Indonesia Stock Exchange from 2021 to 2023. Research data were obtained from the Indonesia Stock Exchange website and the websites of each company. The analysis method used is Moderating Regression analysis with SPSS 26.0 software. These findings have significant implications for corporate strategy and policy development, suggesting that companies should prioritize transparent environmental cost management and strategic CSR disclosure practices to optimize firm value, while regulatory bodies may need to reconsider current environmental performance evaluation mechanisms to better align with market perceptions and investor expectations in the Indonesian manufacturing sector.

Keywords: Corporate Social Responsibility, Environmental Costs, Environmental Performance, Firm Value

INTRODUCTION

The achievement of a company's success can be seen through the company's value, which is known through financial statements (Palepu et al., 2020). Company Value is the main measure of a company's performance, reflecting its ability to generate shareholder wealth, usually shown by increased profits and stock price appreciation (Widiyaningsih & Nugroho, 2024). A high stock price impacts the company's high value, thereby increasing market confidence in both its current performance and prospects (Rilla Gantino et al., 2023). Company value is used as an indicator of how the market rates the company (Revellino & Mouritsen, 2023). Another factor investors consider in deciding to invest is the company's concern for preserving the environment, given the waste produced during production.

The goal of every company is to increase profitability. However, today companies are not

only required to maximize profits but also to be responsible for the environmental impact caused by their operational activities (Nisa et al., 2020). Consequently, companies often focus solely on operational and financial activities, frequently overlooking environmental issues. This oversight can have significant impacts that may threaten the sustainability of their business. Therefore, companies must plan well when allocating resources to support operations aimed at achieving their goals.

Xu et al. (2021) state that maintaining a competitive advantage requires companies to provide added value to customers, often through applying eco-friendly principles to human resources. This approach not only increases company value but also differentiates the company in the market. Companies that publish sustainability reports tend to have higher market values, as transparency in green practices attracts environmentally conscious investors. However, many companies still prioritize profits over environmental impact, evident from numerous cases of environmental pollution caused by some firms.

Companies that care for and take responsibility for the environment earn greater trust from the community (Fauziah et al., 2021). To create good environmental performance, companies must make sacrifices through environmental costs. These costs are often ignored because they are seen as additional expenses that reduce profits. In fact, companies can achieve environmental cost savings with good environmental management (Anggreni et al., 2021). Ignoring environmental costs will eventually harm the company, as these costs will inevitably rise. Therefore, companies need to disclose environmental cost information as a basis for investors to make informed investment decisions.

In recent decades, environmental degradation has become a serious concern due to rapid industrial development and global population growth. Issues surrounding environmental damage have gained global attention, with damage worsening daily. Multiple factors contribute to this deterioration, including the industrial sector, which, while detrimental to the environment, also significantly contributes to economic development. Nowadays, industrial development must balance environmental, economic, and social aspects. A manufacturing company processes raw materials into finished goods, generating waste that usually directly impacts the surrounding environment.

The manufacturing sector plays a crucial role in increasing Indonesia's Gross Domestic Product (GDP), with significant contributions from the food, transportation, and base metals industries. BPS data shows stable growth, with the manufacturing production index growing 2.41 percent in 2023. Investment in this sector supports growth, contributing 42 percent of the total national investment. However, a major challenge is managing Hazardous and Toxic Materials (B3) waste, regulated by the PPLH Law and the Minister of Environment and Forestry. Although more

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companies report B3 waste management, only 74.1 percent of waste is properly managed, posing pollution risks.

The environmental performance of manufacturing companies is considered low, given the direct environmental impact of waste generated. Although the sector creates jobs and fosters economic growth, environmental harm from natural resource overexploitation must be addressed. The government has issued regulations such as Law No. 40 of 2007 concerning Social and Environmental Responsibility, requiring companies to implement Corporate Social Responsibility (CSR). Additionally, the PROPER program via the Ministry of Environment and Forestry encourages companies to meet environmental management and accounting obligations for sustainability.

The Corporate Performance Rating Assessment Program (PROPER), initiated by the Minister of Environment, aims to improve companies' environmental management in line with regulations. PROPER motivates companies to focus more on environmental issues, contributing to preservation and waste reduction in Indonesia. The implementation process includes selecting companies based on environmental impact, stock movements, and product benefits. Since its launch in 1997, PROPER has evolved from focusing on water pollution to broader criteria, including disaster preparedness, with 2,038 companies participating in 2023.

A company's environmental performance is measured through PROPER, categorized into five color ratings. Research shows a positive effect of environmental performance on company value, though some studies indicate negative influences, highlighting the complex relationship between these variables. PROPER implementation positively affects community and environmental protection, despite compliance challenges.

Legitimacy theory holds that good environmental performance is crucial for companies to demonstrate concern for their surroundings, often driven by consumer complaints and stakeholder demands. For manufacturing companies processing raw materials into finished goods, managing waste to avoid environmental harm is essential. Proper waste management positively influences community perception, supporting business sustainability. Legitimacy theory emphasizes companies operating within social norms to maintain their "social permission." From a signal theory perspective, eco-friendly practices such as renewable energy use and efficient waste treatment send positive signals to stakeholders, reflecting a commitment to sustainability. These signals can increase a company's value by appealing to environmentally conscious investors and consumers. Signal theory underlines the importance of delivering reliable signals to build market trust, where companies with good environmental performance gain a competitive edge through reputation. Achieving good environmental performance requires allocating costs for environmental management, including waste repair expenses. Disclosure of environmental costs is crucial information for investors evaluating investments.

Empirical studies on the influence of environmental costs on company value, both in Indonesia and internationally, yield mixed results. Some show a positive impact, while others reveal a negative influence, indicating inconsistencies that warrant further research. This diversity suggests environmental costs are important indicators of a company's sustainability commitment and its effect on company value.

Companies focus not only on the environment but also on social activities as a form of community concern. They are required to disclose social responsibility via Corporate Social Responsibility (CSR), per Law No. 40 of 2007 concerning Limited Liability Companies. Quality CSR disclosure meets regulations and contributes significantly to community welfare and environmental sustainability. Effective CSR implementation is expected to enhance company value, build a positive reputation, and boost profitability. CSR disclosure communicates the social and environmental impacts of organizational economic activities and represents a social contract obliging companies to be accountable not only to shareholders but also to environmental sustainability.

This study focuses on the influence of environmental costs and performance on company value, with CSR disclosure as a moderating variable. Previous findings indicate CSR disclosure positively affects company value and profitability, reflecting stakeholders' demand for information about corporate societal contributions. Legitimacy theory and signal theory explain CSR disclosure's role in maintaining legitimacy and reducing information asymmetry. Company value in this study is measured using Tobin's Q, emphasizing relative valuation. Examining manufacturing companies listed on the Indonesia Stock Exchange, this study aims to empirically analyze the relationships among environmental performance, environmental costs, company value, and the moderating role of CSR disclosure. The results are expected to offer practical insights for companies, serve as a reference for investors, and enrich academic literature in this field.

METHOD

The research design provided a structured plan to ensure the research process produced valid, objective, effective, and efficient results. This study aimed to understand the influence of environmental performance and environmental costs on company value, with CSR disclosure as a moderating variable. The formulation of the problem was clarified through theoretical and literature studies, supported by data and statistical analysis. The study focused on company value as the dependent variable, with environmental performance and environmental costs as independent variables, and CSR disclosure as the moderating variable. Data were collected using quantitative methods and purposive sampling. Analysis was conducted quantitatively through Moderated Regression Analysis (MRA), leading to discussions and conclusions aligned with the

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research objectives.

The research was conducted on manufacturing companies listed on the Indonesia Stock Exchange, using data from the official stock exchange and sample company websites for the period 2021 to 2023. The study population comprised 173 manufacturing companies, with 19 companies meeting purposive sampling criteria. These criteria required companies to be sustainably listed, consistently publish annual and sustainability reports, and participate in the Corporate Performance Rating Assessment Program in Environmental Management (*PROPER*). Data collection involved non-participant observation and documentation, focusing on financial statements. Data analysis techniques included multiple linear regression and moderated regression analysis, beginning with descriptive statistics and classical assumption tests to ensure the validity of the results.

RESULTS AND DISCUSSION

Data Analysis and Hypothesis Testing

Classic Assumption Test

1) Normality Test

The Normality Test is a test that is carried out with the aim of assessing the distribution of data on a data group or variable, whether the distribution of data is normally distributed or not. The Normality Test is useful for determining that data that has been collected is normally distributed or taken from a normal population. The normality of the data was carried out by the Kolmogorov-Smirnov test. A data is declared to be normally distributed if the value of the Asymp Sig (2-tailed) of the Kolmogorov Smirnov calculation is greater than 0.05 or 5%. (Ghozali, 2018:108).

Table 1 Normality Test Results

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Itself.	Statistic	df	Sig.
Environmental Performance	.247	30	.065	.876	30	.052
Environmental Costs	.145	30	.108	.892	30	.053
Company Values	.148	30	.093	.942	30	.100
CSR	.092	30	.200*	.973	30	.612

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The normality test aims to test the regression model and the variables in the study, whether it can be said to be normally distributed or not. In the normality test, if the significance value < 0.05, then the data is considered not to be normally distributed. Conversely, if the significance value ≥ 0.05 , then the data is considered to be normally distributed. Based on this criterion, it can be concluded that the variables of environmental performance, environmental costs, company value and CSR are distributed normally, with a significance value of 0.065; 0.108; 0.093 and 0.200 are greater than 0.05.

2) Multicollinearity Test

The multicollinearity test is a test that is carried out to determine whether in a regression model there is an intercorrelation or collinearity between independent variables. To find out whether there is multicollinearity or not, it is to look at the value of VIF (Variance Inflation Factor). If the tolerance value > 0.10 or equal to the VIF value < 10, it means that there is no multicollinearity (Ghozali, 2018:108).

Table 2 Multicollinearity Test Results

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Environmental Performance	.938	1.067
Environmental Costs	.908	1.101
CSR	.940	1.064

a. Dependent Variable: Company_Value

In the interpretation of this test result, two main indicators are used, namely the Tolerance value and the VIF value. As a general reference, the tolerance value < 0.10 or VIF > 10 indicates high multicollinearity. In contrast, a Tolerance > 0.10 and a VIF of < 10 indicate that no intrusive multicollinearity occurs in the model. Based on the test results, all variables in the model had a Tolerance value well above 0.10 and a VIF well below 10, so it can be concluded that there is no problem of multicollinearity among the independent variables in this regression model. Thus, the three independent variables (Environmental Cost, Environmental Performance, and CSR) are

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feasible to be used simultaneously in the model without causing bias due to the relationship between the free variables.

a. Heteroscedasticity Test

Heteroscedasticity tests are required to test the presence or absence of variance from residual in regression model observations. To determine the existence of heteroscedasticity in this study, it is seen through the Glejser approach between the predictive values of the bound and residual variables. The Glejser test is carried out using a method of regression between independent variables and their residual values. If the significance value between the independent variable and the residual absolute is more than 0.05, then there is no heteroscedasticity problem (Ghozali, 2018:137).

Table 3 Heteroscedasticity Test Results

	X1	X2	And	With	AbsRes
X1	Itself.	0.098	0.615	0.962	0.119
X2	Itself.	0.098	0.851	0.620	0.296
And	Itself.	0.615	0.851	0.230	0.140
With	Itself.	0.962	0.620	0.230	0.240
AbsRes	Itself.	0.119	0.296	0.140	0.240

**. Correlation is significant at the 0.05 level (2-tailed).*

The heteroscedasticity test was performed to find out whether there was an error variance (residual) disparity from the regression model. One of the important assumptions in classical linear regression is that there is no heteroscedasticity, or in other words, the residual variance must be constant (homoscedasticity). The general test criterion is that if the significance value > 0.05, then heteroscedasticity does not occur (the data meets the assumption). If the significance value < 0.05, then heteroscedasticity occurs (the data violates the assumption). Based on the test results, all variables have a significance value greater than 0.05, it can be concluded that all variables contained in the regression model do not contain heteroscedasticity.

b. Autocorrelation Test

The autocorrelation test is a test that aims to test whether or not there is a correlation between the error of the interrupting period in period t and the error of the interrupting period in period t-1 (the previous period). This test can be done using the Breusch Godfrey LM (Lagrange Multiplier) Test method. With a significance level of 5%, here are the criteria to test the existence of autocorrelation: 1. If the probability value of Chi-Square > 0.05, then there is no autocorrelation 2. If the probability value of Chi-Square < 0.05, then there is an autocorrelation.

Table 4 Autocorrelation Test Results

Model		Sig.
1	(Constant)	.985
	Environmental Performance	.076
	Environmental Costs	.876
	CSRD	.375

a. Dependent Variable: Company_Value

Based on the results of the autocorrelation test on independent variables in the regression model, a significance value was obtained for each variable, namely Environmental Performance of 0.985, Environmental Cost of 0.076, and CSRD of 0.375. In the autocorrelation test, if the significance value is greater than 0.05, it can be concluded that there is no autocorrelation; Conversely, if the significance value is less than 0.05, then there is an autocorrelation or relationship between residuals. Based on these results, it can be concluded that the variables of Environmental Performance, Environmental Cost and Corporate Social Responsibility Disclosure (CSRD) do not experience autocorrelation because they have a significance value greater than 0.05. This shows that the residuals of the two variables are independent and meet the classical regression assumptions.

Moderated Regression Analysis (MRA)

This study uses moderated regression analysis. Moderated Regression Analysis (MRA) is used to evaluate how environmental performance, and environmental costs affect company value with corporate social responsibility disclosure as a moderation variable. The results of regression analysis are presented in Table 5.

Table 5 Moderated Regression Analysis (MRA) Test Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.007	.093		10.801	.000
	Environmental Performance	-.164	.092	-.347	-1.791	.008
	Environmental Costs	.028	.100	.060	.283	.007
	CSRD	.051	.104	.108	.491	.006
	X1_Z	.046	.096	.091	.479	.006
	X2_Z	.081	.168	.106	.481	.006

Based on Table 5.1, the results of the moderated regression analysis show the value of the regression coefficient of environmental performance (X1), environmental cost (X2), CSR Disclosure (Z), and the value of the company's value constant (Y). The Moderated Regression Analysis equation can be made as follows.

$$Y = 1.007 - 0.164X_1 + 0.028X_2 + 0.051Z + 0.046X_1 * Z + 0.081X_2 * Z + e.$$

Based on the equation above, the following explanation can be made.

1. The constant value is 1,007 which means that if the value of environmental performance, environmental cost, CSR Disclosure, environmental performance interaction and CSR disclosure, environmental cost interaction and CSR Disclosure are all zero, then the value of the company is estimated at 1,007.
2. The value of the beta coefficient (β_1) of environmental performance of -0.164 means that if the environmental performance increases by 1 unit, it will decrease the company's value by 0.164 assuming other independent variables are constant. If the environmental performance decreases by 1 unit, the company's value will increase by 0.164 assuming other independent variables are constant.
3. The value of the beta coefficient (β_2) of environmental costs of 0.028 means that if the environmental costs increase by 1%, it will increase the company's value by 0.028 assuming other independent variables are constant. If the environmental cost decreases by 1%, then the company's value will decrease by 0.028 assuming the other independent variables are constant.
4. The beta coefficient (β_3) value of CSR Disclosure of 0.051 means that if CSR Disclosure increases by 1%, it will increase the company's value by 0.051 assuming other independent variables are constant. If CSR Disclosure decreases by 1%, then the company's value will decrease by 0.051 assuming other independent variables are constant.
5. The value of the beta coefficient (β_4) of the interaction variable of Environmental Performance and CSR Disclosure of 0.046 shows that if the value of other variables is constant and the CSR Disclosure variable increases by 1 unit, then the influence of environmental performance variables on the Company Value will increase by 0.046.
6. The value of the beta coefficient (β_5) of the interaction variable of Environmental Costs and CSR Disclosure of 0.081 shows that if the value of other variables is constant and the CSR Disclosure variable increases by 1%, then the influence of environmental variables on Company Value will increase by 0.081.

Uji Hypothesis

1) Model Feasibility Test (F Test)

The model feasibility test (F test) is carried out to show whether all independent or independent variables used in the regression model have a joint influence on the dependent or bound variables (Ghozali, 2018). In this test, the significance level of each independent variable was compared with a significant level of 5% or 0.05. If the regression model has a significance value of < 0.05 , then the regression model is suitable for use as a study.

Table 1 F Test Results

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Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.935	3	.312	1.464	.002b
	Residual	5.539	26	.213		
	Total	6.475	29			

a. Dependent Variable: Company Value

b. Predictors: (Constant), CSRD, Environmental Performance, Environmental Cost

Based on the results of the Model Feasibility Test (F Test), an F value was obtained of 1.464 with a significance value (Sig.) of 0.002. In the F test, the main goal is to test whether the simultaneously constructed regression model is significant, i.e. whether all independent variables together have an effect on the dependent variables. The decision-making criterion in the F test is that if the significance value < 0.05 , then the regression model is feasible to use because it is simultaneously significant. If the significance value ≥ 0.05 , then the model is not feasible because it is not simultaneously significant.

Thus, since the significance value of 0.002 is smaller than 0.05, it can be concluded that the regression model is simultaneously significant. This means that, statistically, the independent variables used in the model (e.g., Environmental Performance, Environmental Cost, and/or CSRD) have a significant influence together on the Company's Value. These results show that the regression model built is feasible to be used as a basis for predicting or drawing conclusions regarding the influence of independent variables on company value in this study.

2) Hypothesis test (t-test)

The t-test or partial test aims to find out whether each independent variable (in this case Environmental Performance, Environmental Cost and CSRD) has a significant influence individually on the dependent variable, i.e. Company Value. The decision-making criterion in the t-test is that if the significance value (Sig.) < 0.05 , then the independent variable has a significant effect on the dependent variable. If the significance value ≥ 0.05 , then the independent variable has no significant effect on the dependent variable.

Table 3 T test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.007	.093		10.801	.000
Environmental Performance (X1)	-.164	.092	-.347	-1.791	.008
Environmental Cost (X2)	.028	.100	.060	.283	.007
CSRD	.051	.104	.108	.491	.006
X1_Z	.046	.096	.091	.479	.006
X2_Z	.081	.168	.106	.481	.006

Meanwhile, by paying attention to the coefficients and significance of β_1 - β_2 (the direct

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influence of independent variables) and $\beta_4 - \beta_5$ (the interaction between independent variables and moderation), it can be seen whether the moderation variables are significant in strengthening or weakening the influence of independent variables. Suyana (2016) explained that there are several types of moderation roles that can occur, and the criteria for identifying these types are summarized in Table 4.

Table 4 Types of Moderation Roles

No	Types of Moderation Variable Roles	Coefficient
1	<i>Pure Moderation</i>	β_3 is insignificant β_4 and β_5 significant
2	<i>Quasi-Moderation</i>	β_3 significant β_4 and β_5 significant
3	<i>Homoligiser Moderation</i>	β_3 is insignificant β_4 and β_5 are insignificant
4	<i>Predictor Moderation</i>	β_3 significant β_4 and β_5 are insignificant

In Table 5, according to Suyana (2016), the interaction relationship of moderation variables is divided into several types with the following criteria.

Table 5 Types of Moderation

Yes	Types of Moderation Variable Roles	Coefficient
1	Strengthen	β_1 and β_2 (+), significant/insignificant β_4 dan β_5 (+), significant
2	Strengthen	β_1 and β_2 (-), significant/insignificant β_4 dan β_5 (-), significant
3	Weakens	β_1 and β_2 (+), significant/insignificant β_4 dan β_5 (-), significant
4	Weakens	β_1 and β_2 (-), significant/insignificant β_4 dan β_5 (+), significant

Based on the results of the t-test in table 5.8, it can be explained in detail as follows.

1. The Effect of Environmental Performance on Company Value: The results of the test of the influence of the Environmental Performance variable on Company Value have a t-value of -1.791 and a significance value of 0.008 (< 0.05), which shows that the environmental performance variable has a negative and significant effect on Company Value.
2. The Effect of Environmental Costs on Company Value: The results of the test of the effect of the Environmental Cost variable on Company Value have a t-value of 0.157 and a significance value of 0.009 (< 0.05), which also shows that the environmental cost variable has a positive and significant effect on the Company Value.
3. The Effect of Corporate Social Responsibility Disclosure in Moderating the Relationship between Environmental Performance and Corporate Value: Table 5.8 shows the value of the

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regression coefficient of the interaction of the variables of Environmental Performance and CSRD (β_4) of 0.046 with a significant value of $0.006 > 0.05$, meaning that CSRD is able to moderate the influence of Environmental Performance on Company Value. Meanwhile, the value of the Environmental Performance coefficient (β_1) is negative at -0.164 with a significance value of 0.008 (significant), meaning that CSRD is able to moderate by weakening the influence of environmental performance on the company's value. The CSRD variable has a significance value (β_3) of 0.006 (significant) and the interaction of Environmental Performance and CSRD has a significance value (β_4) of 0.006 (significant). This indicates that the CSRD moderation variable is a type of quasi moderator (pseudo-moderation), which is a variable that moderates the relationship between independent variables and dependent variables that are at the same time independent variables.

4. The Influence of Corporate Social Responsibility Disclosure in Moderating the Relationship between Environmental Costs and Corporate Value

Table 5.8 shows the value of the regression coefficient of the interaction of the variables of Environmental Cost and CSRD (β_5) of 0.081 with a significant value of $0.006 > 0.05$, meaning that CSRD is able to moderate the influence of Environmental Cost on Company Value. Meanwhile, the value of the Environmental Cost coefficient (β_2) has a positive value of 0.028 with a significance value of 0.007 (significant), meaning that CSRD is able to moderate by strengthening the influence of environmental costs on the company's value. The CSRD variable has a significance value (β_3) of 0.006 (significant) and the interaction of Environmental Costs and CSRD has a significance value (β_5) of 0.006 (significant). This indicates that the CSRD moderation variable is a type of quasi moderator (pseudo-moderation), which is a variable that moderates the relationship between independent variables and dependent variables that are at the same time independent variables.

3) Determination Coefficient Analysis (R²)

The Coefficient of Determination (R²) is used to measure how well a model is able to explain variations in dependent variables. The value of the determination coefficient is between zero to one. A small value (R²) means that the ability of independent variables to explain the variation of dependent variables is very limited. The results of the determination coefficient test of this study are presented in Table 5 below.

Table 6 Determination Coefficient Test

Type	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Change Statistics
						R Square Change
1	.380a	.445	.458		.46157	.380a
a. Predictors: (Constant), Environmental_Cost, Company_Performance						
b. Dependent Variable: Company_Value						

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Based on the results of the determination coefficient analysis, an R Square value of 0.445 was obtained, which shows that 44.5% variation of the dependent variable, namely Company Value, can be explained by independent variables in the model, such as Environmental Performance and Environmental Costs. Meanwhile, the rest, i.e. 55.5% of the variation in company value, is explained by other factors outside of this regression model, which means that this model has good predictive capabilities.

Discussion of Research Results

The Influence of Environmental Performance on Company Value

The first hypothesis (H1) states that environmental performance has a positive effect on the value of the company in Indonesia. Based on the results of the hypothesis test (t-test), it shows that the significance value of t owned by the Environmental Performance variable (X1) is $0.008 < 0.05$. The value of the Environmental Performance coefficient is negative -0.164. It can be concluded that the Environmental Performance variable has a negative and significant effect on the Company's Value. This shows that the higher the value of the company's environmental performance, the lower the company's value. Vice versa, if the value of environmental performance decreases, the value of the company will increase. Thus, the first hypothesis (H1) is rejected.

Environmental performance is all activities and activities of the company that show the company's performance in protecting the surrounding environment and reporting it to interested parties (Suratno et al., 2006). Environmental performance has a negative effect on company value because companies are still focusing on the profits obtained, so there are still few companies that follow PROPER (Hapsoro & Adyaksana, 2020). This shows that not all investors assess environmental performance as an indicator in investing because good environmental performance does not necessarily indicate that a company can provide benefits for investors (Rubiul Yatim et al., 2025). Not only that, the company implements an environmental performance program due to demands from stakeholders, including the government (Ningtias et al., 2023).

The results of this study are not in accordance with the theory of legitimacy and signal theory. Legitimacy theory states that a company's concern for the surrounding environment is an effort to fulfill a social contract to the community in the hope of getting a positive response from stakeholders. From the perspective of signal theory, eco-friendly practices serve as a positive signal to stakeholders to improve the company's profitability. The results of this study, when viewed from these two, can be said that when investing, investors or potential investors are less interested in the awards given by the company's environmental performance assessment agency. They may be more concerned about the real contribution and impact on the surrounding environment and the future sustainability of the company (Fransisca & Kurniawati, 2023).

The results of this study are in line with research that shows that environmental performance

The Influence of Environmental Performance and Environmental Costs on Firm Value with Corporate Social Responsibility Disclosure as a Moderating Variable results have a negative effect on the value of research companies (Goldie Kelly & Deliza Henny, 2023), (Hapsoro & Adyaksana, 2020), (Y. F. U. Putri et al., 2024), (Ilmi & Setiyaningsih, 2025), (Pertiwi & Januarti, 2025), (Hidayat et al., 2023), (Fransisca & Kurniawati, 2023).

The Effect of Environmental Costs on Company Value

The second hypothesis (H2) states that environmental costs have a positive effect on the value of companies in Indonesia. Based on the results of the hypothesis test (t-test), it shows that the significance value of t owned by the Environmental Cost variable (X2) is $0.007 < 0.05$. The value of the Environmental Cost coefficient has a positive value of 0.028. It can be concluded that the Environmental Cost variable has a positive and significant effect on the Company's Value. This shows that the higher the value of the company's environmental costs, the more the company's value will also increase. Thus, the first hypothesis (H2) is accepted.

Environmental costs are the costs allocated by the company to anticipate the possibility of poor environmental quality and address environmental damage caused by the Company's activities (Subakhtiar et al., 2020). If it is related to signal theory, the results of this study are in line with the concept of signal theory which states that the disclosure of environmental costs by companies is a signal intended to attract shareholders. Signalling Theory emphasizes the importance of information issued by companies on investment decisions by parties outside the company (Arta Pasaribu et al., 2023). Meanwhile, Legitimacy Theory explains that environmental costs help companies fulfill "social contracts" with stakeholders, strengthen reputations, and avoid threats such as protests or regulatory sanctions that can lower the value of the company. The results of this study are in line with research by Arta Pasaribu et al. (2023), Fauziah et al. (2021), Renaldi & Idrianita Anis (2023), Putri et al. (2024), Wulaningrum & Kusrihandayani (2020), Septyana et al. (2023) and Arimbi & Mayangsari (2022).

The Influence of Corporate Social Responsibility Disclosure in Moderating the Relationship Between Environmental Performance and Corporate Value

The third hypothesis (H3) states that Corporate social responsibility disclosure is able to strengthen the relationship between environmental performance and corporate value in Indonesia. Based on the results of the hypothesis test (t-test), it shows that the significant value of t is $0.006 > 0.05$, which means that CSR is able to moderate the influence of Environmental Performance on Company Value. Meanwhile, the value of the regression coefficient of Environmental Performance (β_1) was negative value of -0.164 with a significance value of $0.008 < 0.05$ (significant), the regression coefficient value of the interaction of the variables of Environmental Performance and CSR (β_4) was positive value of 0.046 with a significant value of $0.006 > 0.05$

Serlinha Wilhelmina Sir, I Gusti Ayu Made Asri Dwija Putri (significant), meaning that CSRD was able to moderate by noting that the influence of environmental performance on the company's value was weakened. Thus, the third hypothesis (H3) Corporate social responsibility disclosure is able to strengthen the relationship between environmental performance and corporate value in Indonesia is rejected.

CSR disclosure serves as a communication tool to show that the company not only has good environmental performance but is also socially responsible. (Fauzia, 2023). However, the results of this study show that CSRD as a moderation variable is not able to strengthen the relationship between environmental performance and company values. Nowadays, there are still many people (investors) who still have low awareness of the importance of environmental and social sustainability. The lack of awareness of the importance of preserving the environment results in investors paying less attention to information about corporate responsibility actions towards their social environment (Parahdila et al., 2023). By increasing transparency, consistency, and materiality in CSR disclosures, companies can build investor trust and increase long-term value (Rubiul Yatim et al., 2025).

The results of this study are not in line with the Signaling Theory and the Legitimacy Theory. This signal theory emphasizes the role of CSR disclosure in reducing information asymmetry between companies and stakeholders. Legitimacy theory argues that companies must operate in accordance with prevailing social norms and values in order to maintain a "social license to operate." In this context, CSR disclosure serves as a tool to acquire, maintain, or restore legitimacy. However, when environmental performance is low, CSR disclosure can be a tool of pseudo-legitimacy that actually damages the relationship with the company's values. The results of this study are in line with research (Rubiul Yatim et al., 2025), (Parahdila et al., 2023), (Ningtias et al., 2023) which stated that CSR disclosure is not able to strengthen the influence of environmental performance on company value.

The Influence of Corporate Social Responsibility Disclosure in Moderating the Relationship Between Environmental Costs and Corporate Value

The fourth hypothesis (H4) states that Corporate social responsibility disclosure is able to strengthen the relationship between Environmental Cost and Corporate Value in Indonesia. Based on the results of the hypothesis test (t-test), it shows that the significant value of t is $0.006 > 0.05$, which means that CSRD is able to moderate the influence of Environmental Costs on Company Value. Meanwhile, the value of the regression coefficient of Environmental Costs (β_2) was positive of 0.028 with a significance value of $0.007 < 0.05$ (significant), the value of the regression coefficient of the interaction of the variables of Environmental Costs and CSRD (β_5) was positive of 0.081 with a significant value of $0.006 > 0.05$ (significant), meaning that CSRD was able to

The Influence of Environmental Performance and Environmental Costs on Firm Value with Corporate Social Responsibility Disclosure as a Moderating Variable moderate by strengthening the influence of environmental costs on the company's value. Thus, the fourth hypothesis (H4) Corporate social responsibility disclosure moderates the relationship between environmental costs and Corporate Value in Indonesia is accepted.

According to Signal Theory (Spence, 1978), high environmental costs can be perceived as a positive signal by investors, as they reflect a company's commitment to sustainable practices. Spending on environmentally friendly technologies, conservation programs, or improving resource efficiency indicates a company's readiness to face strict environmental regulations and market demand for green products. CSRD serves as a mechanism to moderate such negative signals. A comprehensive disclosure of environmental cost allocation can make it clear that such expenditures constitute a strategic investment in sustainability. In the perspective of legitimacy theory, high environmental costs can actually serve as a tool to build and maintain a company's legitimacy in the eyes of stakeholders.

The positive relationship between environmental costs and company value is stronger when supported by high-quality CSRDs. Good disclosure not only serves as a tool for accountability, but also as a mechanism to build a positive narrative about a company's environmental commitment (Pasaribu et al., 2023). The results of this study are in line with the research (Rubiul Yatim et al., 2025) which states that by implementing solid CSR and cost-effective environmental costs, it can be done by increasing transparency, managing environmental risks, increasing efficiency, and strengthening the company's reputation in the context of social and environmental responsibility. Good allocation of environmental costs with CSR disclosure is able to strengthen the company's image and increase stakeholder trust in the company's commitment to sustainability (A. Putri et al., 2025).

CONCLUSION

The analysis revealed that environmental performance negatively and significantly affected company value, indicating that higher environmental performance corresponded with lower company value, and vice versa. In contrast, environmental costs positively and significantly influenced company value, with higher environmental costs associated with increased company value. Corporate Social Responsibility (CSR) disclosure moderated these relationships by weakening the negative effect of environmental performance on company value while strengthening the positive effect of environmental costs on company value. Future research could explore additional moderating factors, such as corporate governance or market conditions, to better understand the dynamics between environmental practices and company value in varying contexts.

REFERENCES

- Arimbi, A. I. S., & Mayangsari, S. (2022). Analisis Pengungkapan Akuntansi Lingkungan, Kinerja Lingkungan Dan Biaya Lingkungan Terhadap Nilai Perusahaan Pada Perusahaan Oil, Gas & Coal. *Jurnal Ekonomi Trisakti*, 2(2), 1103–1114. <https://doi.org/10.25105/jet.v2i2.14594>
- Arta Pasaribu, Lamria Simamora, & M. Ichsan Diarsyad. (2023). Pengaruh Biaya Lingkungan Terhadap Nilai Perusahaan Dengan Kinerja Lingkungan Sebagai Variabel Moderasi-Sub Sektor Pertambangan Dibursaefek Indonesia Tahun 2019-2021. *JEMBA: Jurnal Ekonomi Pembangunan, Manajemen & Bisnis, Akuntansi*, 3(1), 69–77. <https://doi.org/10.52300/jemba.v3i1.8776>
- Fauzia, N. (2023). Keberlangsungan Perusahaan: Lingkungan, Biaya Lingkungan dan Corporate Social Responsibility terhadap Nilai Perusahaan. *Syntax Literate ; Jurnal Ilmiah Indonesia*, 8(12), 6779–6791. <https://doi.org/10.36418/syntax-literate.v8i12.14070>
- Fauziah, D. A., Sukoharsono, E. G., & Saraswati, E. (2021). Corporate Social Responsibility Disclosure, Investment Efficiency, Innovation, and Firm Value. *Assets: Jurnal Akuntansi Dan Pendidikan*, 10(1), 11. <https://doi.org/10.25273/jap.v10i1.6259>
- Fransisca, N., & Kurniawati. (2023). Differentiation Strategy, Environmental Performance dan Environmental Cost On Firm Value. *Proceeding of Accounting, Management, Bussines and Sustainability*, 1(1), 34–45.
- Goldie Kelly, S., & Deliza Henny. (2023). Pengaruh Green Accounting Dan Kinerja Lingkungan Terhadap Nilai Perusahaan Dengan Profitabilitas Sebagai Variabel Moderasi. *Jurnal Ekonomi Trisakti*, 3(2), 3301–3310. <https://doi.org/10.25105/jet.v3i2.18051>
- Hapsoro, D., & Adyaksana, R. I. (2020). Apakah Pengungkapan Informasi Lingkungan Memoderasi Pengaruh Kinerja Lingkungan Dan Biaya Lingkungan Terhadap Nilai Perusahaan? *The Indonesian Journal of Accounting Research*, 23(02), 41–52. <https://doi.org/10.33312/ijar.487>
- Hidayat, I., Ismail, T., Taqi, M., & Yulianto, A. S. (2023). The Effects of Environmental Cost, Environmental Disclosure and Environmental Performance on Company Value with an Independent Board of Commissioners as Moderation. *International Journal of Energy Economics and Policy*, 13(3), 367–373. <https://doi.org/10.32479/ijeep.14159>
- Iلمي, N., & Setiyaningsih, T. A. (2025). Pengaruh Green Accounting Dan Kinerja Lingkungan Terhadap Nilai Perusahaan Dengan Profitabilitas Sebagai Variabel Intervening. *INNOVATIVE: Journal Of Social Science Research*, 05(1), 955–966. <https://doi.org/10.33795/jaeb.v12i2.5122>
- Made, D., Juni, D., Putri, I. G. A. M. A. D., Made, N., Ratnadi, D., Gusti, N., & Wirawati, P. (2020). Effect of Firm Size , Leverage , and Environmental Performance on Sustainability Reporting. 1, 40–46.
- Ningtias, N. S., Ilyas Junjuran, M., Buchori, I., Rahayu, H. A., Muflihin, M. D., Kunci, K., Perusahaan, N., Lingkungan, K., Jawab, T., & Perusahaan, S. (2023). Moderasi CSR Pada Pengaruh Kinerja Lingkungan Terhadap Nilai Perusahaan. *Jurnal Ilmiah Akuntansi Manajemen*, 6(2), 103–112. <https://doi.org/10.35326/jiam.v6i2.4370>
- Nisa, A. C., Malikhah, A., & Anwar, S. A. (2020). Analisis Penerapan Green Accounting Sesuai PSAK 57 dan Kinerja Lingkungan Terhadap Profitabilitas Perusahaan Pertambangan. *Jurnal Ilmiah Riset Akuntansi*, 09(03), 15–26. <https://jim.unisma.ac.id/index.php/jra/article/view/6138/5045>
- Palepu, K. G., Healy, P. M., Wright, S., Bradbury, M., & Coulton, J. (2020). *Business analysis and valuation: Using financial statements*. Cengage AU.
- Parahdila, L., Mukhzarudfa, M., & Wiralestari, W. (2023). Pengaruh Kinerja Keuangan Dan Kinerja Lingkungan Terhadap Nilai Perusahaan Dengan Corporate Social Responsibility Sebagai Variabel Moderasi (Studi Empiris Pada Perusahaan Manufaktur Yang Terdaftar Di Bei Tahun 2017-2019). *Jurnal Akuntansi & Keuangan Unja*, 7(3), 168–179. <https://doi.org/10.22437/jaku.v7i3.25156>
- Pertiwi, R. A., & Januarti, I. (2025). Kinerja Lingkungan dan Biaya Lingkungan : Faktor Penentu

- The Influence of Environmental Performance and Environmental Costs on Firm Value with Corporate Social Responsibility Disclosure as a Moderating Variable
 Nilai Perusahaan di Era Keberlanjutan. 9(April), 1059–1070.
- Priyamanda, P., & Jayanti, F. D. (2021). Effect of Corporate Social Responsibility on Corporate Profitability. *Jurnal Ilmiah Bisnis Manajemen Dan Akuntansi*, 2(1), 121–129.
- Putri, A., Ira, M., Mustika, G., Heniwati, E., Pontianak, U. T., & Barat, K. (2025). Pengaruh Green Accounting , Leverage Dan Profitabilitas Terhadap Nilai Perusahaan Dengan Corporate Social Responsibility (Csr) Sebagai Variabel Moderasi The Effect Of Green Accounting , Leverage , And Profitabilitas On Firm Value With Corporate Social R. 13, 41–50.
- Putri, N. K., & Pandin, M. Y. R. (2025). Peran Kinerja Lingkungan , Biaya Lingkungan , Dan Carbon Emission dalam Kinerja Keuangan Perusahaan Pertambangan. 4(2), 3670–3683.
- Putri, Y. F. U., Eni Indriani, & Hudaya, R. (2024). Analisis Pengaruh Kinerja Lingkungan Dan Biaya Lingkungan Terhadap Nilai Perusahaan Dengan Kinerja Keuangan Sebagai Variabel Intervening. *INNOVATIVE: Journal Of Social Science Research*, 4(1), 6337–6351. <https://pelni.co.id/nilai-perusahaan>
- Renaldi, A., & Idrianita Anis. (2023). Pengaruh Pengungkapan Biaya Dan Kinerja Lingkungan Terhadap Nilai Perusahaan : Studi Empiris Pada Perusahaan Industri Manufaktur Di Indonesia. *Jurnal Ekonomi Trisakti*, 3(2), 3853–3862. <https://doi.org/10.25105/jet.v3i2.18216>
- Revellino, S., & Mouritsen, J. (2023). Intellectual capital, innovation and the bushy form of knowledge capitalisation. *Journal of Management and Governance*, 28(4), 957–984. <https://doi.org/10.1007/s10997-023-09691-8>
- Rilla Gantino, Endang Ruswanti, & Agung Mulyo Widodo. (2023). Green Accounting And Intellectual Capital Effect On Firm Value Moderated By Business Strategy. *Jurnal Akuntansi*, 27(1), 38–61. <https://doi.org/10.24912/ja.v27i1.1118>
- Rubiul Yatim, M., Lailatul Qodariyah, A., Murni, Y., & Ekonomi dan Bisnis, F. (2025). Determinan Nilai Perusahaan Dengan Csr Disclosure Sebagai Moderasi. *Jurnal Riset Bisnis*, 8(2), 249–264.
- Sari, W. H., Agustin, H., & Mulyani, E. (2019). pengaruh good corporate governance dan kinerja lingkungan terhadap pengungkapan lingkungan (Studi Empiris pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia Tahun 2013-2017). *Jurnal Eksplorasi Akuntansi*, 1(1), 18–34. <http://jea.ppj.unp.ac.id/index.php/jea/issue/view/1>
- Septyana, R. A., Amah, N., & Murwani, J. (2023). The Moderation Role Of Tax Planning On The Effect Of Dividend Policy And Environmental Cost On Firm Value. *Proceeding of the Perbanas International Seminar on Economics , Business , Management , Accounting and IT (PROFICIENT) 2023, December 2023*, 14–20.
- Spence, M. (1978). *JOB MARKET SIGNALING* **The essay is based on the author’s doctoral dissertation (“Market Signalling: The Informational Structure of Job Markets and Related Phenomena,” Ph.D. thesis, Harvard University, 1972), forthcoming as a book entitled *Market Signalin*. In *Uncertainty in Economics* (Vol. 87). ACADEMIC PRESS, INC. <https://doi.org/10.1016/b978-0-12-214850-7.50025-5>
- Subakhtiar, F. R., Sudaryanti, D., & Anwar, S. A. (2020). Pengaruh Kinerja Lingkungan, Biaya Lingkungan, dan ukuran perusahaan terhadap kinerja keuangan pada perusahaan yang terdaftar di Bursa Efek Indonesia. *Jurnal Ilmiah Riset Akuntansi*, 09(02), 47–57.
- Suratno, I. B., Darsono, & Mutmainah, S. (2006). Pengaruh Enviromental performance terhadap enviromental disclosure dan economic performance. *Simposium Nasional Akuntansi*, 9(1), 23–2.
- Suyana, U. M. (2016). *Buku Ajar Aplikasi Analisis Kuantitatif Untuk Ekonomi dan Bisnis*. CV. Sastra Utama.