Effect of Environmental Accounting on Firm Value with Profitability as an Intervening Variable

(An Empirical Study of Basic Materials Sector Firms Listed on the Indonesia Stock Exchange (IDX) for the 2021-2023 Period)

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Abstract

This study was conducted to analyze the influence of environmental accounting through the variables environmental costs, environmental performance, environmental disclosure on firm value with profitability as an intervening variable. In basic materials sector companies on the Indonesia Stock Exchange (IDX) for the 2021-2023 period, using a purposive sampling method there were 18 companies with a total sample of 54. This quantitative descriptive research uses path and Sobel analysis based on secondary panel data. Research shows that environmental costs and environmental performance influence firm value. Meanwhile, environmental disclosure has no effect on firm value. Apart from that, environmental costs, environmental performance and environmental disclosure cannot influence firm value with profitability as an intervening variable.

Keywords: firm value, profitability, environmental costs, environmental performance, environmental disclosure

1. Introduction

In this era of globalization, awareness of the importance of social and environmental responsibility is increasingly rising among companies. Businesses worldwide are becoming more aware that sustainable business practices are not only crucial for maintaining a healthy environment but also for ensuring long-term business sustainability.

For long-term sustainability, companies need to manage both financial and non-financial aspects effectively to maximize firm value and enhance shareholder welfare (Erlangga et al., 2021). Investors assess a company's potential in managing resources to achieve optimal profitability. An increase in firm value is considered a significant achievement as it benefits the owners and

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attracts investors to invest. A rise in the company's stock price sends a positive signal to the market, indicating the company's growing wealth, which is appealing to investors (Sevilla Ekawati, 2023). Factors that influence stock value include profitability and the company's environmental disclosure (Nugroho, 2023).

Environmental accounting disclosure is a step taken by companies to demonstrate awareness of environmental and social issues, which not only attracts consumer attention but also highlights the active role of accounting in environmental preservation. Although companies voluntarily report on environmental issues, they must also be aware of the negative impacts of their operations on the environment, which, if not properly addressed, can become a serious issue (Sevilla Ekawati, 2023).

Based on data from the 2022 National Waste Management Information System of the Ministry of Environment and Forestry, Indonesia recorded a waste volume of 35.83 million tons throughout 2022. This volume marks a 21.7% increase compared to the previous year, reaching the highest level in the past four years. The impact of the increasing waste volume can significantly harm the environment and society. The rise in waste can lead to environmental pollution, especially if not properly managed. Additionally, the increased waste volume can also cause social and economic issues.

One of the sectors closely related to the environment is the basic materials sector in Indonesia, as this industry provides raw materials for various other sectors. In this context, this study highlights the importance of understanding the significant environmental impact of activities within the basic materials sector and its relevance to global environmental sustainability issues. Therefore, environmental accounting can become an essential element for companies in the basic materials sector to ensure their responsibility in managing potential environmental impacts, such as through the reporting of CSR activities in their reports.

Previous research has shown varying results regarding the impact of environmental costs, environmental performance, and CSR on firm value. Wulaningrum & Kusrihandayani (2020) and Dewi & Edward Narayana (2020) found that environmental costs positively influence firm value. Conversely, Hapsoro & Ivan Adyaksana (2020) and Amira & Siswanto (2022) reported a significant negative impact. Pratama et al. (2019) and Mardiana & Wuryani (2019) stated that environmental performance positively affects firm value, where as Uy & Hendrawati (2020) and Septinurika Helga et al. (2020) reported no significant influence. Additionally, Erlangga et al. (2021) noted that CSR significantly impacts firm value, which contrasts with the findings of Dahliatul Khasanah & Sucipto (2020) and Suhartini & Megasyara (2019), who reported a negative and insignificant influence. Regarding profitability as a mediating factor, Apriandi et al. (2022) found that profitability can mediate the impact of environmental costs on firm value. However, Afiyah Hayatul et al. (2023) found that profitability does not mediate the effect of green accounting on firm value. On the other hand, Afiyah Hayatul et al. (2023) and Maharani & Puspawati (2022) stated that profitability can mediate the relationship between environmental performance and firm value. Alkhairani et al. (2020) reported that CSR disclosure positively and

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significantly affects firm value through profitability, differing from the findings of Dahliatul Khasanah & Sucipto (2020), which showed a negative and insignificant effect.

This study explores the effect of environmental accounting on firm value by including profitability as an intervening variable, while considering environmental costs, environmental performance, and the disclosure of environmental accounting information as independent variables. Therefore, this research provides a comprehensive insight into the complex relationships between environmental accounting practices, profitability, and firm value, as well as examines the impact and correlation among these variables.

2. Literature review

Legitimacy Theory

Legitimacy Theory was developed by Dowling & Pfeffer (1975) through the concept of legitimacy, which explains the importance of the relationship between an organization and its environment. Organizations strive to maintain alignment between social values and norms of behavior with the aim of preserving their legitimacy. Threats to legitimacy arise when there is a mismatch between the organization's value system and that of the broader society. The empirical focus on organizational legitimacy efforts can help analyze organizational behavior towards the environment and lead to a better understanding of organizational legitimacy issues. The application of environmental accounting by companies not only strengthens their legitimacy in society but can also implicitly influence firm value. Companies that achieve this legitimacy demonstrate good performance and responsibility for their activities. By showing concern for the environment, companies can play a role in environmental preservation to sustainably improve the quality of life in society. (Amira & Siswanto, 2022)

Stakeholder Theory

This theory was developed by Freeman (1984) through the concept of stakeholders, which describes how companies should consider and balance the interests of various involved groups. It is crucial for company management to establish and maintain sustainable relationships and trust with stakeholders in order to achieve the company's vision, which includes maximizing firm value and enhancing stakeholder welfare. This can be achieved by fulfilling the desires and needs of stakeholders. (Amira & Siswanto, 2022) . Stakeholders will show increased attention to environmental performance, both from external and internal perspectives. (Ikhsan, 2009)

Firm Value

Firm value refers to the selling price deemed appropriate by potential investors, making them willing to purchase the company if it were put on the market. An increase in stock price reflects a rise in firm value. Therefore, companies strive to increase their value to achieve maximum profit. (Fuad M et al., 2006: 23). Firm value can be measured using several financial ratios, such as the Tobin's Q ratio, which provides insights into financial aspects and market sentiment, reflects the company's economic value and intellectual capital, and considers future projections. (Amira & Siswanto, 2022)

Profitability

Profitability describes a company's potential to generate profit by leveraging all available capabilities and resources, including the number of employees, sales, number of branches, capital, and other factors. (Harahap Sofyan Syafri, 2016: 304). Profitability can be measured using various ratios, including ROA (Return on Assets), ROE (Return on Equity), NPM (Net Profit Margin), and others. (Sevilla Ekawati, 2023).

Environmental Accounting

Environmental accounting is the process of identifying a company's financial obligations related to the environment. (Ikhsan, 2009: 15) According to Bartelmus et al. (2003: vx), environmental accounting is an approach that measures and evaluates the use of natural resources by economic activities to achieve both economic and ecological sustainability. Environmental accounting measurements can include environmental costs, environmental performance, and environmental disclosure. (Amira & Siswanto, 2022). Environmental costs are the expenses incurred by a company, whether non-monetary or monetary, that impact the environment. (Ikhsan, 2009: 82). The assessment of a company's environmental performance can be measured through its participation in the Company Performance Rating Program (PROPER), which emphasizes good governance principles such as active community involvement in environmental management, accountability, fairness, and transparency. (Sevilla Ekawati, 2023). The context of environmental accounting involves the assessment and disclosure of environmental information related to financial data. (Ikhsan, 2009: 16).

3. Research Hyphothesis Development

The Impact of Environmental Costs on Firm Value

Companies that allocate resources for environmental preservation can enhance their public image, aligning with the concept of legitimacy, which emphasizes the importance of societal acceptance. A commitment to environmentally friendly business practices increases stakeholder appreciation, reduces regulatory risks, and saves long-term operational costs. Therefore, incurring environmental costs is a morally and financially beneficial business strategy that enhances firm value in the eyes of stakeholders.

Research byWulaningrum&Kusrihandayani (2020) and Dewi & Edward Narayana (2020) indicates that environmental costs have a positive effect on firm value. The growing public awareness of environmental issues and the development of environmental accounting standards encourage companies to allocate funds for environmental costs, ultimately leading to benefits such as improved corporate image, attracting investor interest, and creating future expansion opportunities. However, Hapsoro & Ivan Adyaksana (2020) and Amira & Siswanto (2022) suggest that environmental costs have a negative and significant impact on firm value.

H1: Environmental costs have a positive impact on firm value.

The Impact of Environmental Performance on Firm Value

A company's environmental performance reflects its success in reducing and minimizing its impact on the surrounding environment. Strong environmental performance helps the company strengthen its legitimacy in the eyes of the public and meet stakeholder trust regarding environmental issues, positively affecting firm value.

Research by Pratama Derila et al. (2020) and Mardiana & Wuryani (2019) indicates that environmental performance has a positive impact on firm value. Companies that focus on environmental performance can improve shareholder perceptions and enhance firm value through positive market responses to their environmental management efforts. However, this finding contrasts with research by Uy & Hendrawati (2020) and Septinurika Helga et al. (2020), which suggests that environmental performance does not impact firm value.
H2: Environmental performance has a positive impact on firm value.

The Impact of Environmental Accounting Information Disclosure on Firm Value
Disclosure of environmental accounting information allows companies to maintain legitimacy by demonstrating their social responsibilities and alignment with environmental values. This also strengthens relationships and trust with stakeholders, contributing to an increase in firm value.

Research by Erlangga et al. (2021), indicates that CSR (Corporate Social Responsibility) has a significant impact on firm value. This means that the implementation and enhancement of CSR information disclosure by companies have the potential to increase firm value by providing a positive image and gaining stakeholder trust regarding the company's commitment to the environment and the surrounding community. However, this contrasts with research by DahliatulKhasanah&Sucipto (2020) and Suhartini & Megasyara (2019), which suggests that CSR disclosure has a negative and insignificant impact on firm value.
H3: Disclosure of environmental accounting information has a positive impact on firm value.

The Impact of Environmental Costs on Firm Value Mediated by Profitability
Environmental costs reflect a company's social responsibility, enhancing its image and gaining stakeholder support related to environmental issues, which can lead to increased profitability and firm value.

Research by Apriandi et al. (2022) indicates that profitability effectively mediates the impact of environmental costs on firm value. The study suggests that profitability is a key consideration for investors when deciding to invest. When a company reports environmental costs as part of its environmental stewardship, investors may appreciate this commitment, leading to an increase in the company’s stock value. However, this finding contrasts with research by Afiyah Hayatul et al. (2023), which shows that profitability does not yet mediate the impact of green accounting on firm value.
H4: Environmental costs have a positive impact on firm value mediated by profitability as an intervening variable.

The Impact of Environmental Performance on Firm Value Mediated by Profitability
Successful environmental performance can be reflected through external legitimacy based on PROPER ratings. (Sevilla Ekawati, 2023). PROPER ratings illustrate how effectively and efficiently a company manages environmental concerns, which can enhance its image in the eyes

of stakeholders and the public, and affect profitability through increased sales or operational efficiency.

Research by Afiyah Hayatul et al. (2023) dan (R. P. I. Maharani & Puspawati, 2022) indicates that profitability can mediate the impact of environmental performance on firm value. The studies suggest that a company's commitment to the environment, supported by high profitability, attracts investor interest, which ultimately enhances overall firm value.
H5: Environmental performance has a positive impact on firm value mediated by profitability as an intervening variable.

The Impact of Environmental Accounting Information Disclosure on Firm Value Mediated by Profitability
Disclosure of environmental accounting information is crucial in demonstrating a company's commitment to environmental stewardship, which not only affects the company's legitimacy but also has the potential to enhance profitability by strengthening relationships with stakeholders and gaining greater support from investors and consumers.

Research by Alkhairani et al. (2020), indicates a significant positive impact of CSR disclosure on firm value through profitability. The study suggests that environmental accounting information disclosure can improve the company's image, leading to increased consumer loyalty. This, in turn, can enhance sales and long-term profitability, which is reflected in an increase in firm value, particularly in its stock price. However, this finding contrasts with research by Dahliatul Khasanah & Sucipto (2020), which states that CSR disclosure has a negative and insignificant impact on firm value through profitability.
H6: Environmental accounting information disclosure has a positive impact on firm value mediated by profitability as an intervening variable.

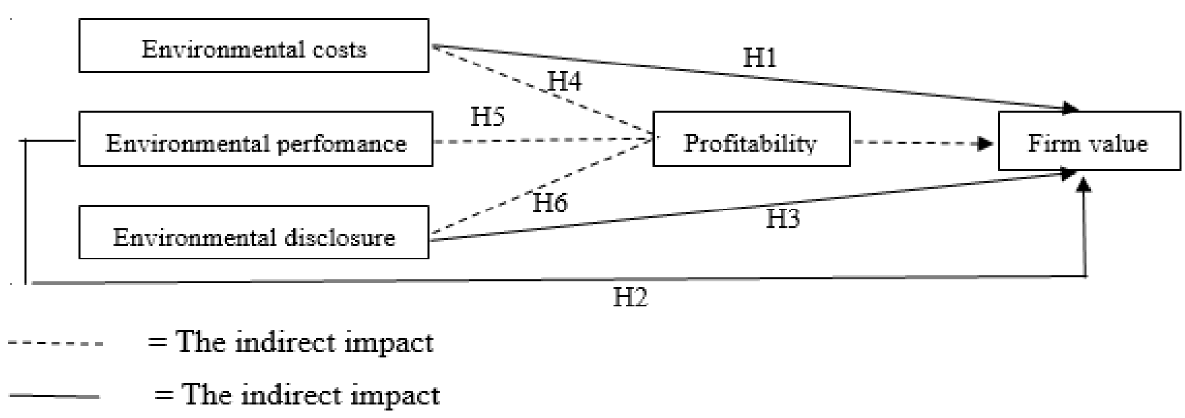

Figure 1. Conceptual Framework

4. Research Methods
This quantitative descriptive study utilizes secondary data from companies in Indonesia operating in the basic materials sector and listed on the Indonesia Stock Exchange (IDX) for the

period 2021-2023. The sampling method is purposive sampling, with a total sample of 54 from 18 companies. The criteria for sample selection include: companies that publish annual or sustainability reports, disclose environmental costs, participate in the PROPER program from the Ministry of Environment and Forestry (KLHK) in Indonesia, and have not experienced stock suspension. The study employs path analysis and the Sobel test based on secondary panel data. Path analysis using STATA 17 is used to measure the direct and indirect effects between independent and dependent variables, while the Sobel test examines the role of intervening variables.

In this study, firm value is measured using the Tobin's Q ratio as utilized by Amira & Siswanto (2022). The Tobin's Q ratio provides an overview of financial aspects and market sentiment, reflecting the economic value and intellectual capital of a company. This ratio offers a comprehensive picture of company valuation and its potential future performance. Simple yet powerful, Tobin's Q is an important tool for investors and analysts to evaluate a company's value and prospects more effectively. The Tobin's Q ratio can be calculated using the following formula:

$$Tobin'S\ Q = \frac{MVE + DEBT}{TA}$$

To measure environmental costs, the study compares the costs incurred for Corporate Social Responsibility (CSR) activities with the company's net profit. This approach aligns with the research conducted by Amira & Siswanto (2022) dan Saputri et al. (2023). The environmental cost ratio can be calculated using the following formula:

$$Environmental\ cost = \frac{Cost\ CSR}{Net\ Profit}$$

Consistent with previous findings by Amira & Siswanto (2022) dan Saputri et al. (2023), environmental performance is measured based on the color rating system in the PROPER reports. This rating system is quantified into a numerical scale as follows: gold = 5, green = 4, blue = 3, red = 2, black = 1.

Environmental accounting information is measured based on the Global Reporting Initiative (GRI) Standards, in line with the methods used by Amira & Siswanto (2022), Daromes F. E. & Kawilarang M. F. (2020), Azzahra Hafidz & Risma Deviyanti (2022). The total score is then calculated using the following formula:

$$\text{Environmental disclosure} = \frac{\sum_{i=1}^{n} Disclosure\ i}{n}$$

Where:

- **Disclosure_i** is 1 if the item is disclosed, and 0 if not.
- **n** is the total number of items in the GRI Standards for environmental disclosure.

Profitability as a mediating variable is measured using Return on Equity (ROE) as an indicator, which assesses a company's efficiency and effectiveness in generating profit using its equity.

This approach is consistent with the methods used by Sevilla Ekawati (2023). The ROE formula can be explained as follows:

$$\text{ROE} = \frac{\text{Net Income}}{Shareholder's\ Equity}$$

5. Research results

Table 1. Descriptive Statistic

Variable	Obs	Mean	Stnd. dev.	Min	Max
Firm value	54	1.296	.977	.328	5.723
Environmental cost	54	.028	.059	-.18	.245
Environmental performance	54	3.481	.905	2	5
Environmental disclosure	54	.688	.154	.437	1
Profitability	54	.0803	.0993	-.184	.4203

Based on Table 1, this study involves 54 samples. Firm value, measured using the Tobin's Q ratio, has a minimum value of 0.328, a maximum value of 5.723, and an average value of 1.296. The minimum value of Environmental Costs is -0.18, with a maximum value of 0.245 and an average of 0.0289. The minimum value of environmental performance is 2, the maximum is 5, with an average of 3.481. The minimum value of environmental disclosure is 0.437, the maximum is 1, with an average of 0.688. For the intervening variable, profitability measured by return on equity has a minimum value of -0.184, a maximum of 0.4203, and an average of 0.0803.

Table 2. Multicollinearity

Variable	VIF	1/VIF
Environmental cost	1.09	0.919389
Environmental performance	1.13	0.885444
Environmental disclosure	1.12	0.895539
Profitability	1.10	0.910379

The results in Table 2 show that the VIF values are greater than 10 and the 1/VIF values are greater than 0.10. Therefore, it can be concluded that the model passes the multicollinearity test (Napitupulu et al., 2021: 88).

Table 3. Heteroscedasticity

Variable	Probability
Environmental cost	0.1947
Environmental performance	0.6005
Environmental disclosure	0.2918
Profitability	0.5417

The results in Table 3 show that the probability value of the residuals is greater than 0.05. Therefore, it can be concluded that the model is free from heteroscedasticity (Napitupulu et al., 2021: 88)

Table 4. Path Analysis

	Variable	Direct effect	Indirect effect
Eq. 1	Env. costs→ Prof.	0.452	
	Env. performance→ Prof.	-0.013	
	Env. disclosure→ Prof.	-0.032	
Eq. 2	Env. costs→ Firm value	-5.805	
	Env. performance→ Firm value	0.379	
	Env. disclosure→ Firm value	0.92	
	Prof. → Firm value	3.098	
	Env. costs→ Prof. → Firm value		0.452× 3.098= 1.401
	Env. performance→ Prof. → Firm value		-0.013× 3.098 = -0.042
	Env. disclosure→ Prof. → Firm value		-0.032× 3.098 = -0.101
Y1=0.452-0.013-0.032+0.965Ɛ1			
Y2= -5.805+0.379+0.92+3.098+0.7705 Ɛ1			

The results in Table 4 show that the direct effect of Env. costs on Profitability is 0.452. The direct effect of Env. performance on Profitability is -0.013, and the direct effect of Env. disclosure on Profitability is -0.032. The direct effect of other variables on Profitability, excluding Env. costs, Env. p, and Env. disclosure, is 0.965.

Regarding the direct effects on Firm value, the direct effect of Env. costs is -5.8051. The direct effect of Env. performance on Firm value is 0.3793, while the direct effect of Env. disclosure is 0.9204. The direct effect of Profitability on Firm value is 3.0989, and the direct effect of other variables on Firm value, excluding Env. costs, Env. performance, Env. disclosure, and Profitability, is 0.7705.

Additionally, the indirect effect of Env. costs on Firm value mediated by Profitability is 1.4017. The indirect effect of Env. performance on Firm value mediated by Profitability is -0.04205, and the indirect effect of Env. disclosure on Firm value mediated by Profitability is -0.1017.

Table 5. Coefficient of Determination

	Adj R-squared
Profitability	0.0350
Firm value	0.2295

The results in Table 5 show that the Adjusted R-Square value for Profitability is 0.0350 or 3%. This coefficient of determination indicates that the variables Environmental Costs, Environmental Performance, and Environmental Disclosure can explain 3% of the variability in Profitability, while the remaining 97% is explained by other variables not included in this research model. For Firm Value, the Adjusted R-Square value is 0.2295 or 22%. This coefficient of determination indicates that the variables Environmental Costs, Environmental Performance, Environmental Disclosure, and Profitability can explain 22% of the variability in Firm Value, while the remaining 78% is explained by other variables not included in the research model.

Table 6. Hypothesis Test

	Variable	t-statistic	Probability
Eq. 1	Env. costs→ Prof.	2.01	0.0501
	Env. performance→ Prof.	-0.87	0.389
	Env. disclosure→ Prof.	-0.36	0.721
Eq. 2	Env. costs→ Firm value	-2.82	0.007
	Env. performance→ Firm value	2.74	0.008
	Env. disclosure→ Firm value	1.14	0.258
	Prof. → Firm value	2.49	0.016
Sobel test	Env. costs→ Prof. → Firm value	1.564	0.117
	Env. performance→ Prof. → Firm value	0.821	0.411
	Env. disclosure→ Prof. → Firm value	0.356	0.721

Table 6 Results show the following findings regarding the hypotheses:in the first hypothesis, Environmental Costs have a significant effect on Firm Value. The analysis shows a t-statistic value of -2.82 with a t-table value of 2.01 and a p-value of 0.007, which is less than 0.05. This indicates that Hypothesis 1 is accepted.

In the second hypothesis, Environmental Performance significantly affects Firm Value. The analysis shows a t-statistic value of 2.74 with a t-table value of 2.01 and a p-value of 0.008, which is less than 0.05. This indicates that Hypothesis 2 is accepted.

In the third hypothesis, Environmental Disclosure significantly affects Firm Value. The analysis shows a t-statistic value of 1.14 with a t-table value of 2.01 and a p-value of 0.258, which is greater than 0.05. This indicates that Hypothesis 3 is rejected.

In the fourth hypothesis, Environmental Costs significantly affect Firm Value mediated by Profitability. The Sobel test analysis shows a t-statistic value of 1.564 with a t-table value of 2.01 and a p-value of 0.117, which is greater than 0.05. This indicates that Hypothesis 4 is rejected.
In the fifth hypothesis, Environmental Performance significantly affects Firm Value mediated by Profitability. The Sobel test analysis shows a t-statistic value of 0.821 with a t-table value of 2.01 and a p-value of 0.411, which is greater than 0.05. This indicates that Hypothesis 5 is rejected.

Regarding the sixth hypothesis, Environmental Disclosure significantly affects Firm Value mediated by Profitability. The Sobel test analysis shows a t-statistic value of 0.356 with a t-table value of 2.01 and a p-value of 0.721, which is greater than 0.05. This indicates that Hypothesis 6 is rejected.

6. Discussion

The impact of environmental costs on firm value.

Based on the analysis results, the first hypothesis is accepted, indicating that environmental costs have a significant impact and correlation with firm value. This reflects that companies allocating

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larger environmental budgets tend to have a higher firm value, suggesting that investors and stakeholders value sustainability and environmental responsibility initiatives. Thus, environmental costs not only contribute to environmental sustainability but also enhance the firm's value in the eyes of stakeholders.

This is consistent with the research of Wulaningrum & Kusrihandayani (2020) dan Dewi & Edward Narayana (2020), which indicates that companies prioritizing environmentally friendly business practices tend to benefit from a positive public and stakeholder image. Evolving regulations and standards related to environmental accounting, along with growing public awareness of environmental issues, are also key drivers for companies to allocate resources to environmental costs. In this context, environmental costs can be viewed as a long-term investment that enhances company reputation, attracts investor interest, and opens future business expansion opportunities. Although there are risks associated with allocating resources to environmental costs, companies can view it as a long-term strategy to mitigate regulatory risks, improve operational efficiency, and build a strong corporate image. Therefore, the first hypothesis, which posits that environmental costs positively impact firm value, remains contextually interpretable depending on how companies manage and implement their environmental policies.

The Impact of Environmental Performance on Firm Value.

Based on the analysis results, the second hypothesis is accepted, indicating that environmental performance impacts firm value. This finding suggests that companies with strong environmental performance typically exhibit higher values.

This is consistent with the research by Pratama et al. (2019) dan Mardiana & Wuryani (2019), which indicates that companies that proactively and consistently focus on environmental performance can improve shareholder perceptions and create a better corporate image, potentially enhancing firm value. This occurs because the market tends to respond positively to effective environmental management efforts, such as emission reduction, effective waste management, and sustainable resource use. Therefore, companies investing in environmental performance not only contribute to environmental sustainability but also build trust and loyalty among stakeholders and attract potential investors, all of which contribute to an overall increase in firm value.

This reflects the company's commitment to social and environmental responsibilities, which can ultimately enhance its market trust and reputation. Consequently, these results suggest that strategies focused on improving environmental performance can be a crucial factor in increasing firm value in the basic materials sector in Indonesia.

The Impact of Environmental Disclosure on Firm Value

Based on the analysis results, the third hypothesis is rejected, reflecting no significant impact between environmental accounting information disclosure and firm value. In other words, the disclosure of environmental information by companies, whether positive or negative, does not have a significant effect on firm value.

This finding is inconsistent with Erlangga et al. (2021), which states that CSR has a significant impact on firm value. However, it aligns with the research of Saputri et al. (2023), Dahliatul Khasanah & Sucipto (2020) and Suhartini & Megasyara (2019), which suggests that investors consider environmental information disclosure as not directly affecting their investment value and expected returns. Investors tend to focus more on key financial performance and production capacity rather than disclosed environmental information. Additionally, general or non-detailed disclosures may not provide significant added value to investors who seek information to better assess risks and opportunities.

The Impact of Environmental Costs on Firm Value Mediated by Profitability

Based on the analysis results, the fourth hypothesis is rejected, indicating no significant effect of environmental costs on firm value mediated by profitability as an intervening variable. This means that, although a high Return on Equity (ROE) does not influence the relationship between environmental costs and firm value when environmental costs are relatively low.

This finding is inconsistent with Apriandi et al. (2022), which states that profitability significantly mediates the effect of environmental costs on firm value. However, it aligns with the research by AfiyahHayatul et al. (2023), which suggests that while costs allocated to support green accounting may remain stable, increased profitability drives companies to focus more on resource allocation towards operational activities to achieve higher profits. This is reflected in the minimal disclosure of environmental costs in companies' annual reports.

The Impact of Environmental Performance on Firm Value Mediated by Profitability

Based on the analysis results, the fifth hypothesis is rejected, indicating that there is no significant effect of environmental performance on firm value mediated by profitability as an intervening variable. This means that the quality of environmental performance and firm value will not affect the company's profitability, even if it is high.

This finding is inconsistent with the research of AfiyahHayatul et al. (2023) dan (R. P. I. Maharani & Puspawati, 2022), which suggests that profitability can mediate the relationship between environmental performance and firm value. The rejection of this hypothesis implies that in the basic materials sector, other factors may be more dominant in determining firm value, potentially obscuring the direct impact of environmental performance. Factors such as commodity price fluctuations, stringent environmental regulations, or even global market conditions can significantly affect profitability and firm value. Furthermore, this suggests that profitability may not fully capture the effects of environmental performance on firm value within the basic materials sector. Therefore, it is important for companies to consider other factors that could have a direct or comprehensive impact on firm value when evaluating the influence of environmental performance.

The Impact of Environmental Disclosure on Firm Value Mediated by Profitability

Based on the analysis results, the sixth hypothesis is rejected, indicating that there is no significant effect of environmental accounting information disclosure on firm value mediated by profitability as an intervening variable. This means that even with a high Return on Equity (ROE), environmental disclosure will not impact firm value, regardless of its minimal disclosure. This finding is inconsistent with the results of Alkhairani et al. (2020), which reported a significant positive effect of CSR disclosure on firm value through profitability. However, it aligns with the research by Dahliatul Khasanah & Sucipto (2020), which suggests that the benefits of environmental costs may only be realized in the long term. Therefore, in this study, profitability does not bridge or influence the relationship between environmental disclosure and firm value.

7. Conclusion

Based on the results of the research, the researcher concludes that environmental costs and environmental performance have a positive impact on firm value. However, environmental disclosure does not affect firm value. The intervening variable of profitability also fails to mediate the relationship between environmental costs, environmental performance, and environmental disclosure with firm value. This may be due to other factors that might be more dominant in determining firm value. Therefore, it is important to consider other factors that can have a direct or comprehensive impact on firm value when evaluating the effects of environmental costs, environmental performance, and environmental disclosure.

This study has limitations, including the use of a limited sample of companies, the measurement of environmental accounting information disclosure using a GRI Standards checklist which contains elements of subjectivity, and the time constraints of the research.

For future research, it is recommended to expand the sample size and include a variety of industry sectors to enhance the generalizability of the findings. Additionally, future studies could consider using different approaches or methods for calculating the same variables as those used in this research. This would help to provide a more comprehensive understanding and potentially reveal new insights into the relationships between environmental costs, environmental performance, environmental disclosure, and firm value.

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