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The Influence of Environmental Factors on Firm Financial Performance

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Abstract: This article aims to empirically discuss the effect of environmental performance, environmental costs, and environmental disclosure on the Firm's financial performance. This study measures the Firm's financial performance by return on assets (ROA). We selected the research population as all manufacturing sector companies on the Indonesia Stock Exchange. The sample of this study was all manufacturing sector companies listed on the Indonesia Stock Exchange for the period 2020-2023. The sampling technique used in this study was purposive sampling, and 16 manufacturing sector companies met the requirements for research samples. This study used the SPSS version 29 application software as an analysis tool. The results of this study indicate that environmental performance does not affect financial performance. Environmental costs affect economic performance. Environmental disclosure does not affect financial performance. These results contribute to academics and practitioners because it turns out that corporate sacrifices in caring for the environment positively impact the Company.

Keyword: Environmental Performance, Environmental Costs, Environmental Disclosure, Financial Performance, Financial Statements.

INTRODUCTION

Every corporation can continue to run and grow with good financial conditions. This condition is one of the focuses of firm management in operating its business operations (Zainab & Burhany, 2020). However, in today's modern economic era, a company's focus is not limited to financial conditions alone but also to the sustainability of the Company. The concept of sustainability encourages companies to pay attention to other aspects besides economic aspects, namely social and environmental. This concept makes companies pay attention to financial conditions and fulfill their social and ecological responsibilities to survive sustainably in the long term. Environmental is one of the most highlighted aspects of company activities (Zainab & Burhany, 2020).

Nowadays, one of the issues companies face is adjusting production capacity and technology with competitive cost competition while maintaining high environmental standards. Environmental attention is becoming increasingly important due to the impact of climate change, global warming, and ecological damage caused by the production process. The

Company's business activities that unconsciously ignore environmental aspects trigger this condition. (Mikial et al., 2019). For example, the PT. Kimu Sukses Abadi (KSA) case is engaged in manufacturing. The Company disposes of its waste through drainage channels that can enter residents' drainage channels, polluting the water. In addition, PT KSA stores waste in the form of used B321-4 ink packaging in the Company's open yard (Rosiliana & Dewi, 2023). Apart from PT. KSA, another pollution case occurred at PT. Greenfields, a company that operates a dairy farm and processes packaged milk. The discovery of pollution from cow dung waste from the milk factory caused environmental problems around the Company (Bekasikab, 2022). Based on the previous incidents, the Company's business activities can unknowingly ignore ecological aspects. In contrast, when running its operations, the Company cannot be separated from environmental elements, such as humans and natural resources. This condition has led to increased stakeholder attention to the environment so that stakeholders pay attention to the Company's financial condition and consider the Company's responsibility to the environment. Therefore, companies must be responsible for their operations' impact and contribute positively to the community where they operate.

The Indonesian government has attempted to increase firms' obligations to the environment, especially for firms operating in the natural resources sector, by issuing Law Number 40 of 2007 concerning Limited Liability Companies. Article 1 number 3 states, "Social and environmental responsibility is the Company's commitment to participate in sustainable economic development to improve the quality of life and the environment that is beneficial, both for the Company itself, the local community, and society in general."

The Indonesian government has attempted to increase corporate environmental obligations, particularly for companies operating in the natural resources sector, by issuing Law Number 40 of 2007 Concerning Limited Liability Companies. Article 1, number 3 states that

> "Social and environmental responsibility is the Company's commitment to participate in sustainable economic development to improve the quality of life and the environment that is beneficial, both for the Company itself, the local community, and society in general."

Likewise, in Law of the Republic of Indonesia Number 32 of 2009 Concerning Environmental Protection and Management, Article 68 states that

> "every person who carries out a business and activity is required to (a) provide information related to ecological protection and management correctly, accurately, openly, and on time, (b) maintain the sustainability of environmental functions, and (c) comply with provisions on environmental quality standards and environmental damage criteria."

In addition to implementing environmental regulations, the government also evaluates the performance of corporate environmental management to strengthen corporate responsibility towards the environment. The Ministry of Environment and Forestry, tasked with preserving the environment in Indonesia, has initiated the Corporate Performance Rating Program in Environmental Management (PROPER). PROPER is a government initiative that encourages companies to manage the environment under the provisions stipulated in applicable laws and regulations (Kementerian Lingkungan Hidup dan Kehutanan, 2019); (Luthan et al., 2017). This program uses a scoring system with five color indicators, namely gold (excellent performance level), green (good performance level), blue (moderate performance level), red (poor performance level), and black (inferior performance level). Although this program has been implemented for over ten years, the average PROPER rating of the companies evaluated has not reached the maximum level. Based on the data obtained, companies that received a red rating increased from 2018 to 2022; this indicates that there has been an increase in efforts to manage the environment, but still do not meet the requirements. Meanwhile, companies that received a green rating experienced a decline from 2018-2022, indicating a decline in environmental management efforts that have met the requirements.

Companies that achieve high PROPER ratings, such as gold and green, will receive higher awards from the public. Increased appreciation and public loyalty will drive sales growth of the corporation's products or services (Tahu, 2019). In addition, increased profits will trigger investors to invest and return to generating profits from previous increases in income.

To achieve optimal environmental performance, companies must allocate costs for ecological management or environmental-related costs. Various activities will cover these costs to improve environmental performance. Environmental-related costs consist of four categories: costs to prevent environmental pollution, costs to detect ecological problems, costs to overcome internal environmental failures, and costs to deal with external environmental failures (Mowen & Hansen, 2017; Lisadi & Luthan, 2023). Disclosure of the expenses for environmental activities will show that the Company is running its business while still paying attention to the environment. This condition can allow the Company to gain a better reputation among consumers, investors, and the community. Thus, this can improve the brand value and attractiveness of the Company in the market.

A sustainability report will provide information about the implementation of environmental responsibility, which Environmental disclosure reflects the Company's commitment to stakeholders. The broader the disclosure in the sustainability report carried out by the corporation, the higher the quality of the information conveyed, with the hope of getting a positive response from stakeholders, and ultimately, can improve financial performance (Haninun et al., 2018; Luthan, 2010; Tizmi et al., 2022).

Previous studies have shown that there are factors that affect financial performance. However, research on the correlation between performance, costs, and environmental disclosure with economic performance has not yet achieved consistent results. This study selected manufacturing sector firms listed on the Indonesia Stock Exchange. Because of the many relationships between this sector and the environment, its operations can cause air, water, and land pollution through factory waste disposal. This situation creates an imbalance between the environment's capacity to absorb industrial impacts and the air pollution produced by the industry in the community environment. This study utilizes data from the 2020-2023 period to reflect the latest conditions of a company and the community environment, and this is the newest period available to be used as a research population based on the completeness of the available data. This study will consider policy-making, decision-making, and corporate responsibility activities towards the environment. In addition, it can also provide information for potential investors when making investment decisions by considering the corporation's commitment to the environment.

The hypothesis developed based on several theories, namely stakeholders and legitimacy (Baah et al., 2021). The stakeholder theory states that firms operate not only for their interests but also to provide benefits to stakeholders (Freeman, 2010). There are several responsibilities that companies have, such as producing goods and services that have the values desired by customers, paying creditors and shareholders, complying with government rules and regulations, carrying out activities under applicable norms in the surrounding environment, and caring for the environment (Wheelen et al., 2018). Stakeholders will demand each of these responsibilities from the Company so that they can be fulfilled. Therefore, stakeholder theory is formed because companies must maintain stakeholder relationships. A company's efforts to maintain its relationships with stakeholders can be made by implementing sustainable reporting disclosures that include economic, social, and environmental performance (Tahu, 2019). The Company discloses by providing reports related to its activities to meet the information needs, which are the rights of stakeholders as parties who have supported the Company. Then, by fulfilling stakeholder rights through disclosure, stakeholders hoped to help the Company maintain its existence (Lindawati & Puspita, 2015).

Legitimacy is a condition or status that is realized when an entity's value system is in line with the more extensive social value system of which the entity is a part (Downling and Pfeffer, 1975 in Lindawati & Puspita, 2015). Legitimacy theory states that companies are part of society, so companies must obey the norms that exist in society and ensure that company activities are acceptable to external parties (Rendtorff, 2009). This theory is one of the theories that motivate companies to disclose sustainable reports. Legitimacy theory illustrates that if there is a difference between the Company's values and those that apply in society, it can put the Company in a threatened position.

Good environmental performance will increase the attention and trust of stakeholders who use financial reports as material for decision-making regarding the Company; this is in line with stakeholder theory. In addition, if the Company's environmental performance is good, it will gain legitimacy from the community because it has carried out activities following existing values; this is in line with legitimacy theory. Then, environmental performance is influenced by various factors, including customers who are stakeholders and want products and their use so that they do not damage the environment (Hansen & Mowen, 2018). If the Company improves its environmental performance, customers will be interested in its products or services, enhancing its financial performance. The influence of ecological performance variables has been carried out in several previous studies. Tahu, 2019, Evita & Syafruddin, 2019, Ermaya & Mashuri, 2020, Setiadi, 2021, and Subakhtiar et al., 2022 found that environmental performance affects financial performance. Based on this explanation, the first hypothesis in this study, namely:
H1: Environmental performance affects Financial performance

Costs incurred for the natural environment are considered an investment for the Company, hoping to gain social and economic benefits in the long term. It also creates a sense of appreciation for the community as an essential social being, thus avoiding the emergence of a legitimacy gap. Although the allocation of costs for the natural environment may be a burden and reduce the Company's profitability in the short term, in the long term, it can result in energy savings, controlled management of environmental damage, sustainable ecological improvement, increased company productivity, a positive image as an environmentally friendly company in the eyes of stakeholders, and ultimately, affect the Company's financial performance. Research on the influence of environmental cost variables has been conducted by (Ermaya & Mashuri, 2020), (Subakhtiar et al., 2022), and (Putri, 2023), who found that environmental costs affect financial performance. Based on this description, the second hypothesis, namely:
H2: Environmental costs affect financial performance.

Disclosure means not covering up and fully disclosing to stakeholders (Haninun et al., 2018). Environmental disclosure discloses all environmental information on company activities that the public needs to know (Mikial et al., 2019). Environmental disclosure shown through sustainability reports is expected to provide information to the public that the Company is not only profit-oriented but also pays attention to the environmental impact as a result of its operations; then, it will increase stakeholder trust, which in time will make decisions to support company activities so that this is under stakeholder theory and legitimacy theory. The influence of environmental disclosure variables has been carried out in several previous studies. Research by (Mikial et al., 2019), (Ningtyas & Triyanto, 2019), (Hardiningsih et al., 2020), and (Al Amosh et al., 2023) found that environmental disclosure affects financial performance. Based on this explanation, the third hypothesis proposed in this study is:
H3: Environmental disclosure affects financial performance.

METHOD

This study uses a quantitative approach to test the relationship between variables. It uses a one-year lag to see the effect of environmental performance, environmental costs, and environmental disclosure on the Company's financial performance. The population in this study were all manufacturing sector companies listed on the IDX for the 2020-2023 period. The sample selection method used was purposive sampling. The following are the sample selection criteria in this study:

1. Manufacturing sector companies listed on the Indonesia Stock Exchange during the 2020-2023 period.
2. Manufacturing sector companies have participated in the PROPER issued by the Ministry of Environment and Forestry.
3. The Company publishes annual and sustainability reports for the 2020-2023 period.
4. Manufacturing sector companies that report environmental costs consecutively during the 2020-2023 period

The type of data used is secondary data. The data used are the Company's annual report for 2020-2023, sustainability reports from the official IDX website and the Company's official website, and PROPER-related data obtained from the Ministry of Environment and Forestry website. The variables in this study are environmental performance, environmental costs, environmental disclosure, and financial performance; the definition of each variable is

1) Environmental performance is a company's performance that preserves the environment and integrates it into its business activities. A company's environmental performance can be measured using the PROPER report by the Ministry of Environment and Forestry. PROPER divides the assessment criteria based on five color indicators: gold with a score of 5, green with a score of 4, blue with a score of 3, red with a score of 2, and black with a score of 1.
2) Environmental costs, are costs allocated by the Company to anticipate potential problems of poor environmental quality and to address environmental damage that may arise due to company activities. The assessment of environmental costs is based on the amount of ecological costs listed in the sustainability report or annual report reported by each Company and comparing it with net profit (Putri, 2023).
3) Environmental disclosure is the disclosure of information about the environment reported by the Company through the annual report or sustainability report. Ecological disclosure is measured based on environmental disclosure indicators that refer to the guidelines. This list of disclosure indicators relates to the guidelines issued by the Global Reporting Initiative (GRI) obtained from the Company's sustainability report. Environmental disclosure is measured based on GRI 4 environmental fields, using disclose-scoring obtained from the analysis of financial statements; each item will be given a score of 1 (one) if disclosed and 0 (zero) if not disclosed. Measurement of disclosure items is carried out using the following formula.

$$EDI = \frac{\sum X_i}{N}$$

Note:
EDI : environmental disclosure index
Xi : dummy variable: 1: if disclosure; 0: if not disclose
N : number of disclosure items by the Company

Financial performance describes the Company's ability to gain profits and increase the Company's value (Tahu, 2019). This study's financial performance measurement uses the return on asset (ROA) ratio because the ROA value can be used as a benchmark to compare the Company's ability to generate profits.

RESULTS AND DISCUSSION

This study uses samples from manufacturing sector companies listed on the Indonesia Stock Exchange (IDX), from 2020 to 2023. Researchers obtained data from the Ministry of Environment and Forestry (https://www.menlhk.go.id/), the IDX website (https://www.idx.co.id/id), and the companies' websites concerned. The number of manufacturing companies listed on the Indonesia Stock Exchange (IDX) for 2020 to 2023 was 194. However, 134 companies did not participate in the PROPER program consecutively from 2020 to 2023, 19 did not publish annual and sustainability reports consecutively from 2020 to 2023, and 25 did not disclose environmental costs. Based on the selection criteria, researchers obtained 16 companies that met the requirements as research samples, with a total data of 48 companies. Data processing in this study used a statistical data processing application, namely the Statistical Package for the Social Sciences (SPSS) version 29.

Table 1. Results of Descriptive Statistical Tests

	N	Minimum	Maximum	Mean	Std. Deviation
Environment Performance	48	3,00	4,00	3,1250	0,33422
Environment Cost	48	-261,77	35,47	-5,5183	42,54435
Environment Disclosure	48	5,88	79,41	34,9881	17,18493
Financial Performance	48	-11,71	10,90	3,1704	5,19221
Valid N (listwise)	48				

Source: data processed with SPSS 29, 2024

From Table 1, the results of the descriptive analysis of the first independent variable, namely environmental performance, have 48 data (N) with a minimum value of 3 and a maximum value of 4. The average value obtained is 3.1250, with a standard deviation value of 0.33422. The second independent variable, environmental costs, has 48 data (N) with a maximum value of 35.47 and a minimum of -261.77. In comparison, the average value is -5.5183, with a standard deviation of 42.54435. Furthermore, the third independent variable, environmental disclosure, has a maximum value of 79.41 and a minimum of 5.88. At the same time, the average value is 34.9881, with a standard deviation of 17.18493. Based on Table 1, the descriptive analysis of the dependent variable, namely financial performance, has 48 data (N) with a maximum value of 10.90, while the minimum value is -11.71. The average value is 3.1704, with a standard deviation of 5.19221.

Environmental Performance and Financial Performance

The study shows that environmental performance does not affect financial performance. In Table 2, environmental performance has a significance level with a value of 0.995, which means it is more significant than 0.05, so the hypothesis that environmental performance affects financial performance is rejected. From the 48 data processed by the researcher, most companies received a blue rating in the PROPER program, which indicates that they carry out environmental management following the provisions of the law. This result shows that the Company's environmental performance is not optimal because it only manages the environment as required by law and has not carried out management beyond that required. Then, the PROPER program assessment does not require companies to achieve high scores; as a result, many companies only get average scores; this shows that efforts to protect the environment are carried out to the extent of fulfilling obligations. In addition, products produced by companies that care about the environment tend to have higher prices and are not under the purchasing power of the majority of people in Indonesia, so they are not the primary choice for consumers. This study is in line with research conducted by (Mikial et al., 2019), (Ningtyas & Triyanto, 2019), and (Angelina & Nursasi, 2021), who found that environmental performance did not affect financial performance. This study is in contrast to the research conducted by Tahu (2019), Evita & Syafruddin (2019), Ermaya & Mashuri (2020), Setiadi (2021), and Subakhtiar et al. (2022) that environmental performance affects financial performance.

Environmental Costs and Financial Performance

The results of the study concluded that environmental costs affect financial performance. From Table 4.6, environmental costs have a significance level with a value of 0.035, which means it is less than 0.05, so the hypothesis that ecological costs affect financial performance is accepted. Environmental costs are company expenses related to environmental improvement programs due to pollution that occurs, either intentionally or unintentionally. The ideal ecological costs are mainly allocated to prevention and detection activities, such as preventing and identifying potential environmental damage, including costs for selecting suppliers and raw materials, purchasing waste processing equipment, measuring waste levels, etc. These steps can reduce internal failure costs, such as waste processing costs, and external failure costs, such as cleaning up an environment polluted by waste. The allocation of costs for the natural environment is considered an investment for the Company, so if appropriately allocated, it can reduce the potential damage costs in the future; this will impact significant cost reductions and improve the Company's financial performance.

In addition, environmental costs are also accompanied by clear information on how these costs contribute to operational efficiency or long-term savings so that the public can see the added value of these expenses. Allocating a company's environmental costs can provide some benefits, including drawing the attention of shareholders and stakeholders to the Company's benefits from responsible environmental management. Environmental costs as a form of corporate social responsibility can affect financial performance because companies that incur environmental costs will have a positive social image and can increase legitimacy from various parties, thus impacting the sustainability of the Company. This positive response can later increase public interest in buying the Company's products, ultimately improving financial performance. This study is in line with research conducted by Ermaya & Mashuri (2020), Subakhtiar et al. (2022), and Putri (2023), which found that environmental costs affect financial performance.

Environmental Disclosure and Financial Performance

The results of the research data analysis show that environmental disclosure does not affect financial performance. In Table 4.6, environmental disclosure has a significance level with a value of 0.830, which means it is more significant than 0.05, so the hypothesis that ecological disclosure affects financial performance is rejected. This condition shows that environmental information disclosure cannot be a determining factor in economic performance. Environmental disclosure does not determine the high financial performance of manufacturing companies because companies have not fully disclosed ecological information under the GRI 4 guidelines.

The study of environmental disclosure on financial performance aligns with the survey conducted by Tahu (2019), which concluded that ecological disclosure has no impact on economic performance. This study is in contrast to the studies of Mikial et al. (2018), Ningtyas & Triyanto (2019), Hardiningsih et al. (2019), and Al Amosh et al. (2023), who found that environmental disclosure affects financial performance.

Table 2. Hypothesis Test Results

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2,931	7,618		0,385	0,702
	Environmental Performance	0,017	2,710	0,001	0,006	0,995
	Environmental Cost	0,038	0,018	0,314	2,177	0,035
	Environmental Disclosure	0,011	0,053	0,038	0,216	0,830

Source: data processed with SPSS 29, 2024.

CONCLUSION

Based on the hypothesis testing on the effect of environmental performance, environmental costs, and environmental disclosure on financial performance in manufacturing sector companies listed on the IDX for the period 2020-2023, it can be concluded that environmental performance does not affect economic performance in this research sample. The results of this study concluded that hypothesis 1 was rejected. This result indicates that ecological performance based on PROPER is not one of the factors influencing the high and low financial performance proxied by ROA.

The results of this study indicate that environmental costs affect financial performance, so hypothesis 2 is accepted. This shows that environmental costs are one factor affecting the high and low economic performance as proxied by ROA. In this study sample, environmental disclosure does not affect financial performance. The results of this study conclude that hypothesis 3 is rejected. This result indicates that ecological disclosure based on GRI 4 is not one factor that affects the high and low financial performance as proxied by ROA.

Researchers can provide suggestions for better research. The suggestion is that updating the period is necessary by adding years of research observation, for example, to 5 years or more, so that it can describe the ongoing phenomenon better and obtain more optimal results. Then, the next researcher will use various variables that can still be studied, such as Environmental, Social, Governance (ESG), and environmental audits.

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