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Determinants of firm value: the role of environmental management disclosure practices

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Abstract

The company's goal is not only to seek profit but needs to pay attention to non-financial, namely environmental responsibility. The company's environmental management also plays a role in determining its value, so it is necessary to test environmental management in terms of environmental information disclosure, environmental performance achievements, and the number of environmental costs. Therefore this study aims to examine the environmental management of 100 non-cyclical consumer sector companies listed on the IDX in 2016-2020 using a purposive data collection method, and data analysis using multiple linear regression with a significance of 5%. The results of this study indicate that companies that manage the environment receive support from stakeholders, as evidenced by the disclosure of environmental information and environmental performance that can increase company value, even though environmental costs reduce company value, stakeholders support company policies because companies comply with government regulations and can maintain reputation and ethics.

Keywords: *environmental information disclosure, environmental performance, environmental costs, firm value*

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INTRODUCTION

The government has established a government sustainable development program that requires support from various parties including companies, one of which is that companies are asked to provide information on environmental activities, in addition to information on finance and social economics. These provisions are contained in government regulation No POJK No. 51/03/2017 concerning the preparation of sustainability reports for public companies which must inform about economic, social and environmental activities. Therefore, companies need to respond wisely to pay attention to environmental performance by informing activities related to the environment including environmental costs incurred. If the company has disclosed environmental information including environmental performance achievements and the allocation of environmental costs incurred, then stakeholders will have more confidence in the company that the company has carried out its obligations by informing the environment including social awareness related to the impact of environmental risks on society.

The company's social and environmental obligations are often referred to as corporate social responsibility which can indicate the company's compliance with the provisions regarding social and environmental responsibility (Republik Indonesia, 2007). A company that prepares a social responsibility report means that the company informs the company's operational activities including social and environmental impacts (Nugrahani et al., 2021; Nugrahani & Artanto, 2022). Following Elkington (1997) on the triple-bottom-line principle, namely, companies must be able to lead to equal aspects of profit, be responsible to society, and be responsible to the environment. The company's attention to the environment shows ethical behaviour so that the environment is protected (Lako, 2017)

Unethical behaviour occurs in the phenomenon of environmental damage that occurs in Indonesia by PT Prima Makmur Batam (PMB). PT. PMB damaged the environment by constructing houses and buildings without having a permit in the 13,846-hectare Sei Hulu Lanjai Nature Reserve and the 5,416-hectare Tanjung Kasam Nature Reserve. PT. PMB violates Article 98 and Article 116 paragraph 1a of Law no. 32/2009 PPLH, punishable by a maximum fine of IDR 10 billion. The results of the Batam

District Court Judge's trial decided that PT. PMB was fined Rp. 2.5 billion and environmental restoration due to damage done by the company (www.menlhk.go.id, 2022)

One of the environmental distortion phenomena reflects the company's low concern for the environment. The company's low responsibility towards the environment can lead to the emergence of environmental damage problems. Therefore, companies need to pay attention to environmental issues which must be included in the accounting field agenda to play a role in overcoming environmental problems as a form of corporate responsibility to stakeholders. Environmental responsibility is an investment in future income for companies (Wong et al., 2016). Information on environmental responsibility needs to be presented in an annual report or sustainability report so that managerial decision-making takes into account profit, social and environmental aspects (Lako, 2017), including in the allocation of environmental costs (Egbunike & Okoro, 2018).

Information on company concerns in managing environmental impacts can be shown through the disclosure of environmental information in the annual report. Disclosure of environmental information is becoming more of a focus for companies to improve the management of the company's impact on the environment (Choi et al., 2018). Disclosure of environmental information in Indonesia is still voluntary, so most companies in Indonesia have not disclosed detailed environmental information in annual reports (Hapsoro & Adyaksana, 2020). Disclosure of environmental information is used to increase public confidence in company performance (Vigneau et al., 2015), although now disclosure of environmental information is also strengthened by POJK regulation No. 51/03/2017 is contained in the sustainability report, but until now the company has not fully paid attention to the environment.

The company's ability to manage the environment is also shown through optimal environmental performance. Optimal company environmental performance reflects a low level of pollution, to improve the company's image in the eyes of stakeholders (Utomo et al., 2020). Environmental performance in Indonesia can be reflected through ratings on the PROPER assessment (Harahap et al., 2018). The Ministry of Environment and Forestry (KLHK) established a program for Rating Company Performance Ratings in Environmental Management or often called PROPER. The program aims to assess company awareness to minimize the negative consequences of company activities and comply with environmental regulations. The PROPER assessment is expected to influence companies to create environmental awareness by carrying out activities and using environmentally friendly materials.

Environmental management creates corporate consequences in the form of environmental costs. Companies that allocate environmental costs that are larger show that companies have high levels of pollution than companies that allocate smaller ones. Hapsari et al (2021) prove that most public companies in Indonesia prefer not to allocate detailed environmental management costs. The costs incurred for environmental activities become a burden because they reduce company profits, so companies need to allocate environmental costs well (Rakos & Antohe, 2014). Allocation of environmental costs, in the long run, controls environmental damage and increases company productivity, which can reduce company profits.

Several studies on environmental issues are still relevant to research today, in general, previous studies tested environmental problems using legitimacy theory, such as studies (Braam et al., 2016; Ching et al., 2017; Harahap et al., 2018) which focuses more on the level of compliance, but does not pay attention to other stakeholders. Likewise, studies (Angraeni et al., 2020; Hapsoro & Adyaksana, 2020; Hassan, 2018; Khanifah et al., 2020; Rinsman & Prasetyo, 2020) which examine environmental issues with the signal theory only focus on investor stakeholders in company performance achievement. This study complements previous studies using a stakeholder theory approach, so those company environmental problems can be identified by stakeholders, such as environmental expenses or costs incurred by companies that are likely to reduce company profits, but because companies pay attention to ethics, stakeholders will understand. This study proves that the stakeholder theory approach is appropriate for explaining environmental problems in companies, this is one the contributions of this study.

In addition to the results of proving the policies carried out by companies related to environmental problems such as the allocation of company environmental costs which are proven to reduce company profits, it is necessary to properly consider the policy between costs and benefits of environmental costs, so that companies can use the most appropriate calculations in determining the amount of costs environment. This study contributes that companies do not only pay attention to high environmental performance achievements such as the PROPER assessment but also need to consider environmental cost calculations which are likely to reduce company profits. Therefore, in determining environmental policies, it is necessary to consider the accuracy of both quantitative, qualitative and monetary information (Michelon et al., 2015) so that companies will be more precise in providing solutions to environmental problems that will be following stakeholder expectations.

Therefore, this study examines environmental problems using a stakeholder theory approach which explains company practices related to environmental disclosure because stakeholders want this information (Freeman, 1984), so stakeholders believe that environmental information contributes to company performance, both financial and non-financial. financial including company value. In addition, by taking into account the rapid development of companies, especially the consumer non-cyclicals sector as one of the companies engaged in industries that are vulnerable to environmental damage, this sector needs to pay attention to the environmental impact due to waste from the results of company activities including product packaging and product residue. Accordance with the study of Fernandez-Feijoo et al (2014) which proves that primary consumer goods industry companies reveal more corporate ethics that emphasize environmental issues such as health and safety than other industries. Therefore, this study examines the consumer non-cyclicals sector in examining environmental problems which also contributes to this study because the sector's testing related to environmental issues has never been tested before, and the results of this study prove that consumer non-cyclicals have paid attention to environmental issues and policies are in line with stakeholder expectations.

LITERATURE REVIEW

Stakeholder Theory

Stakeholder theory was introduced by Freeman (1984) who explained that the company's goals are not only profit-oriented but also pay attention to the needs of stakeholders so that expectations are in line between stakeholders and the company. According to Andries & Stephan (2019), several stakeholders such as managers, employees, suppliers and the environment want to benefit from the company which is manifested by high corporate value. While Welbeck et al (2017) state that stakeholders are worried about the company and whether the company has concern for environmental sustainability because it can harm future generations if the company does not manage the environment properly.

Several previous studies tested environmental management practices using a stakeholder theory approach that has an impact on company value, company performance and financial performance. Laskar & Maji (2018) tested corporate sustainability disclosure on company performance in four countries in Asia - Japan, South Korea, Indonesia and India showing that companies that pay attention to corporate sustainability will assist managers in creating company performance that is aligned with the needs of stakeholders. The study by Agustia et al (2019) tested environmental management accounting for company value in the manufacturing sector listed on the IDX, showing that stakeholders, especially investors, do not want companies to incur environmental costs because companies reduce company resources and are inefficient. The same results were found by Nugrahani & Artanto (2022) testing the disclosure of environmental performance on financial performance showing that disclosure of environmental performance will reduce financial performance because it is not wanted by stakeholders.

Impact of Environmental Information Disclosure on Firm Value

Disclosure of relevant environmental information to stakeholders can increase competitive advantage, so companies must build a good reputation to meet stakeholder expectations through disclosing environmental information (Mumtazah & Purwanto, 2020). Disclosure of environmental information reflects the transparency of environmental responsibility which can determine company value (Permana & Tjahjadi, 2020). Several studies that have tested information disclosure related to company value have been carried out (Fitri et al., 2019; Fuadah et al., 2018; Kamilla, 2020; Mumtazah & Purwanto, 2020; Sundari & Setiany, 2021). The results of the study show that disclosure of environmental information has a positive effect on firm value, which means that companies that disclose environmental information will

be able to increase firm value. Disclosure of environmental information carried out by the company can increase the company's trust from stakeholders because the company can manage the environment well and pay attention to responsibility for environmental impacts as evidenced by the increase in company value, so the first hypothesis is proposed, namely:
H1: Environmental information disclosure has a positive effect on firm value

Impact of Environmental Performance on Firm Value
Environmental performance reflects the company's level of success in reducing the negative impact of operational activities as measured using the PROPER rating. Environmental performance is the company's achievement in managing its business by taking into account environmental impacts (Gabrielle & Toly, 2019). Environmental performance is a management effort to create a balanced environment and build a good image in the eyes of stakeholders (Harahap et al., 2018). According to Mariani & Suryani (2018), companies that survive are companies that pay attention to environmental performance. Several previous studies have tested environmental performance concerning firm value (Gabrielle & Toly, 2019; Harahap et al., 2018; Hasian & Suputra, 2021; Machmuddah et al., 2020; Rismayanti et al., 2021; Sharma & Verma, 2021). The results of the study show that environmental performance has a positive effect on firm value. Companies that pay attention to environmental performance mean that companies can reduce negative environmental impacts from the company's activities. Following the stakeholder theory which explains that companies do not only aim to gain profits but also pay attention to environmental performance which is manifested by concern for the risk of environmental pollution so that stakeholders will have more trust in the company because companies can improve environmental performance which is offset by an increase in firm value, then the submission of the second hypothesis is:
H2: Environmental performance has a positive effect on firm value

Impact of Environmental Costs on Firm Value
Environmental costs are costs associated with company activities with due regard to environmental pollution (Rounaghi, 2019). Environmental costs as an effort to prevent and mitigate environmental damage as a result of the activities carried out by the company. Environmental costs have less direct economic consequences because the forms, types, and strategies for determining environmental costs are more indirect (Jo et al., 2016). Several previous studies examining environmental costs related to firm value have been conducted (Buana & Nuzula, 2017; Hapsoro & Adyaksana, 2020; Siagian et al., 2022). The study results show that environmental costs have a negative effect on firm value. Companies that allocate environmental costs reduce the value of the company. Following the stakeholder theory, the company seeks to fulfil the wishes of stakeholders, including transparency in allocating environmental costs which can reduce the value of the company. Stakeholders realize that companies must comply with government regulations by taking into account environmental impacts, so companies that allocate environmental costs will reduce company value, but companies can maintain reputation and ethics so that the consequences of reducing profits can be accepted by stakeholders, so submitting the third hypothesis that is:
H3: Environmental costs have a negative effect on firm value

METHODE RESEARCH

Population and Sample
The population of this research is consumer non-cyclicals sector companies listed on the Indonesia Stock Exchange from 2016 to 2020. The consumer non-cyclicals sector is a sector that can survive in crisis conditions because it has the characteristics of companies that are not affected by economic growth (www.idx.co.id, 2021). While the research sample is 100 companies, while the data collection technique is by observing companies listed on the IDX through the IDX media site (www.idx.co.id) and the media sites of each company. The method of determining the sample is purposive sampling with the following criteria:

Table 1. Sample Determination

No	Criterion	Total
1.	Companies consumer non-cyclical sector is listed on the Indonesia Stock Exchange which published an annual report from2016-2020	73
2.	Companies consumer non-cyclical sector that received ratings PROPER	35
3.	Companies consumer non-cyclical sector that list environmental costs	20
4.	Observation for 5 years	x 5
5.	The number of company data as a sample	100

Source: Secondary data processed, 2022

Variable Measurement

Firm Value (Y)

Firm value is the perception of stakeholders on the company's ability to manage and control resources, which is reflected in equity performance (Keown et al., 2010). This study uses the measurement of firm value with Tobin's Q. According to Sudiyatno & Puspitasari (2010) there are criteria for interpreting Tobin's Q score, namely: First, less than one indicates that the stock is undervalued, meaning management has failed to manage the company's assets, resulting in low investment growth potential; Second, equal to one illustrates that stocks are in average condition, meaning management is stagnant in managing assets so that investment growth potential does not develop; and Third, more than one illustrates that stocks are in overvalued condition, meaning management is successful in managing the company's assets. The value of the company using Tobin's Q is formulated:

$$\text{Tobin's}Q = \frac{\text{MVE+Debt}}{\text{TA}}$$

Market Value of Equity (MVE) = Year-end closing share price x total shares outstanding
Debt = Book value of total liabilities
Total Asset (TA) = Total book value of assets

Environmental Information Disclosure (X1)

Environmental information disclosure reflects the transparency of environmental responsibility which can determine company value (Permana & Tjahjadi, 2020). Disclosure of environmental information is measured using content analysis. This method uses an environmental information checklist adopted from the Global Reporting Initiative (GRI) G4.

$$\text{Environmental Information Disclosure} = \frac{\sum \text{Item expressed by the company}}{\sum \text{Environmental disclosure items}}$$

Environmental Performance (X2)

Environmental performance reflects the company's level of success in reducing the negative impact of operational activities. Measurement of environmental performance using the ranking of environmentally friendly waste management that develops in Indonesia is the assessment of company performance ratings in environmental management (PROPER). PROPER based on Environmental Regulations Article 09 No. 6 years (2013):

Table 1. PROPER Rating

Colour	Gold	Green	Blue	Red	Black
Score	5	4	3	2	1
Information	Very, very good	Excellent	Good	Bad	Very bad

Source: Minister of Environment (2013)

Environmental Cost (X3)

Environmental costs are financial information about environmental management efforts as a result of company activities (Rounaghi, 2019). Academics in the field of accounting have created the concept of environmental accounting aimed at presenting information related to the allocation of environmental costs that affect the company's sustainability (Egbunike & Okoro, 2018).

$$\text{Environmental Cost} = \frac{\sum \text{Environmental Cost}}{\text{Net profit after tax}}$$

RESULTS AND DISCUSSION

Descriptive Statistics

Descriptive statistical analysis provides information regarding the minimum value, maximum value, mean value, and standard deviation.

Table 2. Descriptive Statistics

Variable	Min	Max	Mean	Std. Dev
Environmental Information Disclosure	0.117	0.617	0.310	0.124
Environmental Costs	-0.009	0.341	0.029	0.069
Firm Values	0.661	4.584	1.686	0.964

Source: Secondary data processed (2022)

Based on table 3, it shows that the average disclosure of environmental information is 0.310, which means that almost 50% of consumer companies in the non-cyclical sector in Indonesia disclose environmental information. Meanwhile, the average environmental cost is 0.029, meaning non-cyclical consumer sector companies allocate environmental costs of 2.90% of net profit. The average value of the company is 1.686, which means that companies in the non-cyclical consumer sector in Indonesia have a firm value as measured by Tobin's Q > 1 which indicates that management has succeeded in managing the company's assets. Environmental performance is a variable with an ordinal scale so the presentation of descriptive statistics on environmental performance uses frequency. Table 4 shows the frequency of PROPER ratings for companies that have received up to 4 Gold ratings, 10 Green ratings, 84 Blue ratings, 2 Red ratings and no Black ratings. Based on descriptive statistics, most of the non-cyclical consumer companies in Indonesia are in the "good" predicate according to the Proper rating with a blue symbol which means the companies have met the required standards from the Ministry of Environment and Forestry.

Table 4. Descriptive Statistics Environmental Performance

Colour	Frequency	Percent	Cumulative Percent
Gold	4	4%	100.0
Green	10	10%	96.0
Blue	84	84%	86.0
Red	2	2%	2.0
Black	0	0%	100.0
Total	100	100%	

Source: Secondary data processed (2022)

Hypothesis Test

Testing the multiple linear regression hypothesis with a significance level of 5%. Here are the results of the hypothesis testing:

Table 5. Hypothesis Test

Variable	Coefficients	t	p-value.	Result
(Constant)	-0.926	-3.090	0.003	
Environmental Information Disclosure	0.833	2.188	0.031	H_1 = Supported
Environmental Performance	0.356	4.001	0.000	H_2= Supported
Environmental Costs	-2.496	-3.741	0.000	H_3= Supported
F Count = 10.044 and Sig. F = 0.000				
Adjusted R^2 = 0.215				

Source: Output SPSS 24

According to the results of the Adjusted R square coefficient test, the dependent variable is impacted by the independent variable, which comprises the environmental information disclosure, environmental performance, and environmental cost, by 21.5%, with a value of 0.215. Other factors not included in the research model have an impact on the remaining 78.5%.

Testing the first hypothesis in table 5 shows the t-value of disclosing environmental information of 2.188 and a p-value of 0.031 <0.05 meaning that the first hypothesis is supported which can be said that disclosure of environmental information has a positive effect on firm value, meaning that the higher the disclosure of environmental information, the company will increase the value of the company. Disclosure of quality environmental information provides additional information for stakeholders as material for consideration in making investment decisions. This result is in line with the findings of Fitri et al (2019); Fuadah et al (2018); Mumtazah & Purwanto (2020); Sundari & Setiany (2021) which show that disclosure of environmental information has a positive effect on firm value. Following the stakeholder theory which states that companies disclose environmental information to build a good reputation (Mariani & Suryani, 2018). The results of the study show that disclosure of environmental information in the consumer non-cyclicals sector can increase stakeholder confidence in companies because consumer non-cyclicals sector companies can manage the environment well and pay attention to responsibility for environmental impacts as evidenced by increased firm value.

The second hypothesis is that the effect of environmental performance on firm value shows a t of 4.001 with a p-value of 0.000 <0.05 indicating that environmental performance has a positive effect on firm value. According to table 4, companies in the consumer non-cyclicals sector in Indonesia on mayority receive a PROPER rating with a blue symbol following the required KLHK standards. Companies that comply with environmental management and receive a PROPER rating are one of the factors that encourage stakeholders to invest in companies with better environmental performance. The results of this study support the study of Gabrielle & Toly (2019); Harahap et al (2018); Hasian & Suputra (2021); Rismayanti et al (2021); Sharma & Verma (2021); Utomo et al (2020); Wahidahwati & Ardini (2021) which shows that the higher the environmental performance, the firm value will increase. Companies are motivated to improve environmental management by maintaining good performance, especially by increasing higher ratings following regulations made by the Ministry of Environment and Forestry, thus increasing the trust of stakeholders (Qian & Schaltegger, 2017). The stakeholder theory states that companies try to get support from stakeholders to be able to maintain the sustainability of the company (Mariani & Suryani, 2018). One of the company's efforts to gain support is to manage companies that pay attention to environmental performance achievements by reducing the negative environmental impact of the company's activities carried out. Companies need to have concerned about the risk of environmental pollution so that they get support from stakeholders which can ultimately increase the firm value.

The t-value for environmental costs is -3.741 with a p-value of 0.000 <0.05 indicating that the third hypothesis is supported, which means that environmental costs have a negative and significant effect on firm value. High environmental costs lead to lower market reaction. The results of the study show that companies need to carefully determine environmental costs between costs and benefits. Companies need to allocate environmental costs appropriately as a preventive measure against polluting the environment so that companies can maintain company value. The results of this study are consistent with previous studies Buana & Nuzula (2017); Hapsoro & Adyaksana (2020); Siagian et al (2022) which prove environmental costs have a negative effect on firm value, which means environmental costs will reduce firm value. Following theory stakeholders explain that a company will survive depending on stakeholder support (Freeman, 1984), so to maintain support from stakeholders the company must be able to prove that the allocation of environmental costs is important for companies to do that needs to explained to stakeholders interests to realize that companies have an obligation to comply with government regulations by taking into account environmental impacts, so companies need to allocate environmental costs even though they will be profitable, but because the company maintains ethics and reputation, the consequences of reducing profits can be accepted by stakeholders important.

CONCLUSION

Based on the results of testing environmental management with a stakeholder theory approach, can show results that company management needs to pay attention to the environment related to environmental responsibility practices including disclosure of environmental information and environmental performance that can increase company value. The company's policy has the support of stakeholders because the disclosure of environmental information and the company's environmental performance can increase profits which are embodied in corporate value. Meanwhile, the company's policy regarding the allocation of environmental costs which reduces the value of the company also receives support from stakeholders, because the company has a responsibility to comply with government regulations to pay attention to environmental impacts which require costs even though it will reduce the value of the company. Stakeholders agree with this policy because companies must also pay attention to ethics and reputation. This study has limitations, namely that it only examines environmental costs in monetary terms from the total environmental costs, it still needs to be re-tested by grouping environmental costs based on prevention costs or costs that need to be traced again whether due to internal or external impacts on the company. Therefore future studies need to test the classification of environmental costs based on prevention, detection or failure costs from within or outside the company.

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