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Influence of Green Accounting and Environmental Performance on Profitability

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ABSTRACT

The purpose of this research is to gather empirical evidence about the effect of green accounting and environmental performance on profitability, either separately or concurrently. The population in this study consists of 107 companies listed on the Indonesia Stock Exchange in the mining sector and the goods industry sector consumption. Purposive sampling with criteria set to produce 77 observational data was used to sample as much as possible. In this study, data was gathered through documentation in the form of annual reports and company sustainability reports. Based on the findings of the research, it is possible to conclude that, while the use of green accounting is voluntary, its impact on profitability is greater than that of environmental performance. The implications of this research explain how the company can improve environmental cost efficiency so that it can be used as the basis for the company's consideration before determining the expected level of profitability.

Keywords: Green Accounting, Environmental Performance, Profitability.

1. INTRODUCTION

The concept of green accounting for companies is the ability to minimize various environmental-related problems faced by the company. Many mining sector companies and the consumer goods industry sector have currently implemented environmental accounting. Companies are expected to implement environmental accounting to increase the efficiency of the use of costs related to environmental management by conducting assessments from the standpoint of environmental costs and the benefits or effects generated (economic benefits) related to environmental management. Companies that use environmental accounting can generate assessments of the cost and impact of environmental protection activities [1].

Environmental accounting used by businesses must be designed using appropriate analysis. By implementing environmental accounting, businesses can continuously improve their efficiency and service. Furthermore, with the company's environmental accounting, the environmental costs charged on the product can be calculated precisely to produce a cost of the product that more accurately describes the real situation. (Suartana, 2010).

The use of modern technology and the use of cheaper resources to increase productivity and efficiency have a direct impact on the environment around the company. The existence of the company is inseparable from various parties, one of which is environmental support. Various ways carried out by companies in increasing productivity and efficiency resulted in a decrease in environmental quality resulting from soil, water, and air pollution. By doing environmental management appropriately, for the long term will certainly benefit the community and the company [2].

At the end of 2016, seven mining and plantation sector companies in Bengkulu Province were sanctioned for environmental pollution. Sanctions provided by the Ministry of Environment and Forestry in the form of administrative sanctions and fines. One of the mining companies sanctioned is required to pay a fine of Rp 371 million to the state for environmental pollution committed. Such a thing should be used as a lesson for other companies to better appreciate the surrounding environment [3].

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Environmental information disclosure can play a role in the government's ongoing environmental management programs, such as PROPER. The government can assess the company's compliance with environmental requirements and rules by disclosing environmental responsibility. The Company Performance Rating Assessment Program (PROPER) is based on the company's performance in meeting various requirements stipulated in applicable laws and regulations, as well as the company's performance in implementing various environmental management activities that have not become requirements beyond compliance [4].

Proper participating companies every year are always changing. In 2016 1930 companies followed PROPER. In 2017 1819 companies were determined to be PROPER participants. In 2018, 1906 companies were proper participants. By becoming a PROPER participant and entering into one of the PROPER rankings will certainly make reputation and trust in the company better. A good reputation will make the company's business activities run normally. Trust will encourage consumers to be loyal to the company. High consumer loyalty will increase sales so that it will increase the company's revenue. The company's revenue is closely related to profitability. Profitability can describe the state of profit generated from sales.

Research conducted by [5] entitled "The Role of Industrial Activities processing against environmental pollution in South Sulawesi" found that sectors (1) of chemical processing industry, rubber and plastics (2) processing of base metals (3) processing of goods from metals are the heaviest contributors to pollution in South Sulawesi. The value of environmental pollution as measured by the amount of pollution cleaning costs amounted to Rp278.28 billion or equivalent to 2.8% of the total output of the processing industry sector in South Sulawesi in 2010. Many studies examine the influence of the mining sector and the consumer goods industry on environmental pollution. Based on this, in this study researchers decided to choose the mining sector and consumer goods industry.

Some previous studies have examined many factors that affect profitability. There is also research that focuses on environmental factors that can affect profitability such as green accounting and environmental performance. In previous research, companies that became the population in the study were limited to only one sector. This causes the number of samples used not to exceed 30 companies. In addition, previous studies only used observation periods for two periods, so the number of samples that can be observed becomes limited.

Previous research conducted by Putri [6], Chasbiandani [7], and Nisa [8] found that green accounting has a significant influence on profitability. Meanwhile, research conducted by Ahmad [9], Wangi & Lestari [10], Abdullah [11], and Makori & Jagongo [12], found that green accounting did not have a significant influence on profitability. In addition, research conducted

by Sulistiawati & Dirgantari [13], Vasanth [14], Chasbiandani [7] Wangi & Lestari [10], Lestari [10] found that there is a significant relationship between environmental performance and profitability. Putri [6], Nisa [8] and Chasbiandani [7] It was also discovered that there was a concurrently significant relationship between green accounting and environmental performance and profitability.

The study's novelty is that it uses a population drawn from two sectors of companies listed on the Indonesia Stock Exchange to generate a sufficient number of samples for analysis. Furthermore, the three-year company report period was used as the observation period in this study. This is expected to improve data distribution so that the research yields the best results possible.

2. LITERATURE REVIEW

2.1 Theory of Legitimacy

Some theories that support the submission of social and environmental accountability reports are legitimacy theory and stakeholder theory. According to legitimacy theory, businesses will ensure that they operate within the boundaries of the values and norms that exist in the society or environment in which the company is located [15]. Meanwhile, according to Ghozali & Charir [16], environmental-based Companies tend to use performance and disclosure of environmental information to legitimize corporate activities in the eyes of the public. The purpose of disclosing social responsibility and corporate environmental responsibility is to gain positive value and legitimacy from the community. The legitimacy will also improve the company's reputation, which will have an impact on the company's revenue and value.

2.2 Stakeholder Theory

According to Deegan & Unerman [15], According to stakeholder theory, a company is not an entity that operates solely for its own benefit, but must also benefit corporate stakeholders. As a result, the support provided to a company by stakeholders has a significant impact on its existence. The stakeholder theory is very similar to the legitimacy theory. The company's survival is dependent on stakeholder support, and such support must be sought, so that the company's activity is to seek such support. Meanwhile, according to Ghozali & Chariri[16], explained that stakeholder theory pays attention to all parties who have interests in the company. Corporate stakeholders have their expectations of the company. Management will strive to manage and achieve stakeholder expectations by delivering activities related to social and environmental responsibility.



2.3 Profitability

Profitability refers to a company's ability to generate profits from sales, total assets, and capital. Thus, long-term investors will be keenly interested in this profitability analysis, for example, shareholders will see profits distributed in the form of dividends [17]. This is indicated by the profit generated from sales and investment income. The point is that the use of this ratio shows the efficiency of the company. Meanwhile, according to Hantono [18], Profitability, also known as rentability, is a ratio that indicates a company's ability to generate profits. The higher the profitability ratio, the better the company's ability to generate profits.

In this study, profitability was measured using the Return On Equity (ROE) ratio. According to (Cashmere, 2010), ROE is a ratio that compares net income after taxes to equity. This ratio measures the effectiveness with which one's equity is used. This ratio should be as high as possible. This means that the company's owner's position is strengthening, and vice versa. The formula for calculating ROE is:

Return On Equity (ROE) $= \frac{Earning \ After \ Interest \ and \ Tax}{Equity}$

2.4 Green Accounting

Green accounting is accounting that identifies, measures, assesses, and discloses costs associated with environmental corporate activities. Environmental accounting generates reports for the company's internal and external stakeholders to use as decision-making tools. Environmental accounting is an environmental management tool and a communication tool with the community to be used as relevant information to know the company's activities to deal with environmental pollution [7].

Environmental costs are expenses incurred as a result of poor environmental quality as a result of the company's manufacturing process. Environmental costs must be reported separately according to cost classification. This is done so that environmental cost reports can be used as informative data to assess the use of green accounting in businesses whose operations have a direct impact on the environment [19].

Menurut Watson [20] environmental cost structure is divided into four parts, namely:

- a. Internal failure costs incurred due to environmental pollution from toxins produced by production, costs incurred due to the onset of waste, and others are examples of costs related to the company's internal environment.
- b. External failure costs are costs associated with the company's external environment, such as a loss of reputation or market share as a result of pollution caused by company activities.

- c. Appraisal costs are costs incurred for monitoring activities related to environmental management.
- d. Prevention costs are costs in efforts to prevent further environmental damage incurred by the company.

Dummy methods were used to measure green accounting in this study. If the company studied has one of the environmental cost components below in the annual report or sustainability report, it will get a score of 1. However, if it does not have a component of environmental costs it will be given a score of 0. The final value is the number of scores obtained by each company. Environmental cost components that are used as indicators are:

- a. Environmental rehabilitation costs
- b. Environmental management costs
- c. Cost of sewage treatment
- d. Public relations costs
- e. Monitoring costs
- f. Environmental Performance

According to Suratno [21], Environmental performance is defined as the company's performance in creating a good environment as well as its activities in environmental preservation. As a company, environmental performance is used to create a green environment that meets the expectations of stakeholders. According to the legitimacy theory, if the company performs well in terms of the environment, the company's reputation in the community will improve. This is the company's investment in order to achieve commercial success.

Environmental performance was measured in this study using the company's performance rating report in environmental management, which was published by the Ministry of Environment and Forestry. The company's PROPER rating in this study was changed to the following score:

- Gold: Score 5 (Very Good)
- 2. Green: Score 4 (Good)
- 3. Blue: Score 3 (Pretty Good)
- 4. Red: Score 2 (Bad)
- 5. Black: Score 1 (Very Bad).

3. METHOD

3.1 Formulation of Research Hypothesis

Background In addition to the previous research described above, the framework of thought through the research paradigm is described as follows:



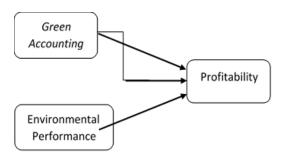


Figure 1 Research Paradigm Images

A hypothesis or hypothesis is a temporary answer to a problem that is still conjectured because it still has to be proven the truth [22]. The researcher developed the following hypothesis based on the research paradigm described above:

- H1: Green Accounting has an impact on profitability.
- H2: Environmental Performance has an impact on profitability.
- H3: Green Accounting and Environmental Performance both have an impact on profitability.

3.2 Research Methods

Secondary data in the form of financial statements and annual reports on mining sector companies and consumer goods industry sectors listed on the Indonesia Stock Exchange with a three-year report are used in this study. The financial statements and annual reports of the companies can be obtained from the Indonesia Stock Exchange's official website, www.idx.co.id, as well as the websites of each company. Researchers also consulted sustainability reports from a number of companies that have issued such reports. Because sustainability reports are voluntary, not all mining and consumer goods companies publish them. The study also used a report from the Ministry of Environment and Forestry's Performance Rating Assessment Program in Environmental Management (PROPER). PROPER report data can be obtained from the Ministry of Environment official website, and Forestry's www.proper.menlhk.go.id.

The method used in this study is a quantitative method based on statistical analysis to examine factors that can affect profitability in mining and consumer goods companies listed on the Indonesia Stock Exchange. Quantitative research methods are those that employ data in the form of numbers or statements that are assessed and analyzed statistically to test established hypotheses. This study was carried out by hypothesizing the impact of green accounting independent variables and environmental performance on profitability dependent variables.

3.3 Population and Sample

This study's population consists of all mining sector companies and consumer goods industry sectors listed on

the Indonesia Stock Exchange from 2016 to 2018, a total of 107 companies. Purposive sampling methods are used to determine samples in this study. Thus, in order to determine the sample in this study, the researchers devised criteria for selecting samples with data that meet the needs of the study. Based on these criteria, 37 companies were chosen as a research sample. With a total of 77 observation data points. The observational data was generated after researchers decided to eliminate data with extreme value by looking at the results of the analysis in SPSS 26 using a Boxplot.

4. RESULT AND DISCUSSION

4.1 Multiple Linear Regression Line Equations

Based on the output results, the equation of multiple linear regression lines can be expressed as follows:

$$\hat{Y} = a + b_1 X_1 + b_2 X_2$$

$$\hat{Y} = 0.188 + (-0.016)X_1 + (-0.001)X_2$$

The equation shows that the green accounting coefficient (X1)is -0.016 and the environmental performance coefficient (X2) is-0.001 while the constant value is 0.188. Thus it can be explained that if X1 and X2 increase by 1 point each then profitability (Y) will decrease by -0.017. The equation gives the picture that if green accounting and environmental performance whose value is each increasing will reduce the value of profitability.

4.2 Analysis Requirements Test Results

The normality test is done to find out the normal or not of data distribution. Parametric statistical tests are used when normal-distributing data is based on normality test results. Nonparametric statistical tests are used if the data is not distributed normally based on the results of the normality test. The normality test in this study used the Kolmogorov Smirnov test conducted using the SPSS 26application. The normality test results are as follows.

Sig value is based on the results of the green accounting variable normality test versus profitability. Each indicator on Green Accounting had a Kolmogorov Smirnov value of 0.200. Significance. If the p-value is greater than 0.05, the data is assumed to be normal.

Sig value is based on the results of the normality test of environmental performance variables to profitability. Each indicator on Environmental Performance has a Kolmogorov Smirnov value of 0.200. Significance. If the value is greater than 0.05, it is safe to assume that the data follows the normal distribution..

Based on the results of the green accounting variable normality test and environmental performance against profitability, Asymp value. Sig. (2-tailed) Kolmogorov Smirnov, 0.200. Sig value. Greater than 0.05, it can be



concluded that the data is the normal distribution. So this study can use parametric statistical tests.

Before performing regression analysis, first, conduct a linearity test. Linearity tests are used to prove the truth in the use of model specifications used. The linearity test in this study was conducted using the SPSS 26program. The results of the analysis that show linear or not regression lines between independent and dependent variables can be seen in the Sig column. deviation from linearity line.

The First Hypothesis (H1)

The first hypothesis test (H1) = Green Accounting's effect on Profitability) is done using partial regression analysis (t-test), partial correlation coefficient, and determination coefficient with the following results.

Table 1 Hypothesis Test Results

Variable	Values R and R2		Value t		Sig.
	R	R2	count	ttable	
Green Accounting	0,308	0,095	- 2,755	- 1,99254	0,007

Source: Processed secondary data, 2020

4.3 Discussion

Effect of Green Accounting on Profitability

The results of the first hypothesis test(H1) found a Sig value. 0.007 < 0.05. While the value tcalculates -2.755 and the value of the table is -1.99254 which means -tcalculates < -table. Thus the influence of green accounting on profitability is significant and negative, so the first hypothesis is accepted.

Green accounting measured using environmental cost component indicators has a negative influence on profitability. Increased environmental costs can cause the value of profitability to decrease. This can happen because the company considers environmental costs as additional expenses that lead to reduced profitability value.

Some companies charge environmental fees on the cost of the product and do not separate it according to the environmental cost classification. This causes the value of the cost of the product to be less realistic. In addition, if environmental expenses increase, then the cost of the product can increase and cause the price of the product to get higher. High product prices will certainly not be easily accepted by consumers so that it can affect the decline in company revenue.

The negative influence between green accounting on profitability illustrates that the company's concern for the environment will have an impact on business sustainability. In the short term, investing in the environment will reduce the level of profitability.

However, in the long-run investment in the environment will increase the efficiency of environmental cost use and will have a direct impact on the level of profitability.

This is indicated by the most important indicator, which is the cost of public relations, which can improve a company's reputation. For example, if a company spends a significant amount of money on environmental investments in 2016, its profitability may suffer. However, environmental investment in 2016 could improve a company's efficiency in the use of environmental costs a few years later. As a result, the company only needs to spend money on the upkeep and depreciation of existing environmental facilities. This has an immediate impact on profitability.

The Effect of Environmental Performance on Profitability

The results of the second hypothesis test(H2) found a Sig value. 0.967 > 0.05. While the value tcalculates - 0.042 and the table t value of -1.99254 which means - tcalculates > -t-table. Thus the influence of environmental performance on profitability is insignificant and negative, so the second hypothesis is rejected.

Most of the companies sampled in the study ranked blue in proper ratings. The blue rating means that the company has made the required environmental management efforts following applicable laws or regulations. The Company only fulfills its obligations to applicable regulations without carrying out more activities than required such as the implementation of environmental management systems, efficient utilization of resources, and making social responsibility efforts properly.

Data that is mostly ranked blue with the amount of 64.9% is the cause of the lack of maximum distribution of data generated. In addition, in the implementation of the PROPER assessment program, the results are still not published properly. Many companies receive PROPER awards but do not include them in annual reports or sustainability reports. Lack of publication causes the company's reputation to not increase. Because the reputation does not increase makes the company's revenue difficult to grow. This leads to insignificant and negative environmental performance and profitability relationship results.

The Effect of Green Accounting and Environmental Performance on Profitability

The third hypothesis test result \neg (H3) found a sig value of .025 < 0.05. While the value Fcalculates 3.891 and the value of F-table is 3.12 which means Fcalculates > F-table. Thus simultaneously the influence of green accounting and environmental performance on profitability is significant, so the third hypothesis is accepted.



The resulting regression equation Y =0,188+(-0,016)X1+(-0,001)X2 shows that green accounting variables have a greater impact on profitability than environmental performance variables. In practice, green accounting and environmental performance are inextricably linked. This is due to the fact that green accounting records costs associated with company environmental activities. Environmental performance is the company's activity in creating a good environment. The environmental performance demonstrates how concerned the company is about the environment. Green accounting, on the other hand, describes the company's concern about the openness of information related to the surrounding environment.

The simultaneous influence of green accounting and environmental performance on profitability demonstrates that, in general, increasing attention to environmental issues will affect the company's level of profitability. Although the use of green accounting is voluntary, it has a significant direct impact on the level of profitability. As shown by the regression equation, the influence of green accounting on profitability is greater than the influence of environmental performance on profitability.

4. CONCLUSION

Based on the study's findings, which proved the three hypotheses submitted, and on the study's purpose, which was to find empirical evidence on the influence of green accounting and environmental performance on profitability in mining sector companies and consumer goods industry sectors listed on the Indonesia Stock Exchange during the period, the following conclusions can be drawn.

Green accounting has a negative and significant influence on profitability in mining sector companies and consumer goods industry sectors listed on the Indonesia Stock Exchange for the period.

For the period, environmental performance had no impact on profitability in mining sector companies and consumer goods industry sectors listed on the Indonesia Stock Exchange.

For the period, green accounting and environmental performance had a significant impact on profitability in mining sector companies and consumer goods industry sectors listed on the Indonesia Stock Exchange.

This study had several limitations during its implementation, which are as follows: Green accounting variables and environmental performance are the only variables in this study that reflect a company's concern for the environment. The profitability variable measuring tool employs only one ratio, return on equity (ROE). In this study, green accounting measuring instruments in the form of indicators are limited to only five indicators of the environmental cost component. In this study, the

environmental performance variable measuring tool only uses PROPER ratings from the Ministry of Environment and Forestry, which are used to assess the performance of environmental management by companies on an annual basis.

For future research, researchers can continue or complete the limitations in this study to achieve the best results. Researchers provide recommendations for future research, which are as follows: Researchers can conduct additional research by putting out ISO 14001 (Environmental Management System), which each indicator is used by the company to be used as a measuring tool for environmental performance variables.

For future research, researchers can include other corporate sectors as populations, increasing the amount of data and optimizing the results of data distribution.

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