The Influence of Green Accounting on the Company Profitability

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Abstract. This study aims to investigate the influence of green accounting on company profitability. This study is conducted due to the negative ecological impact of industrial business processes, such as environmental pollution, which can affect organisms in the surrounding area. This study focuses primarily on chemical industries listed on the Indonesia Stock Exchange in 2021 and evaluates them using PROPER. This study employs a purposive sampling method and uses secondary data of the 2021 annual reports of the industry as its source of information. The result of the study finds that green accounting and environmental performance positively impact on company profitability. Environmental performance has a positive effect on company profitability (ROA and ROE), meaning that the higher the PROPER rating, the greater the company's profitability. Companies are advised to be more concerned about the environment because their business processes must rely on natural resources that are detrimental to the environment and the people who experience it. Businesses must create a green background to have a more significant positive impact on the environment or industry.

Keywords: environmental performance · green accounting · profitability

1 Introduction

Modern economics has revealed numerous environmental issues, such as global warming, eco-efficiency, and industrial activities, directly affecting the surrounding environment [1]. Accounting for corporations focuses more on the management and owners of company capital (Stockholders and Bondholders) than on other parties [2]. Because the company is accountable to stakeholders and does not prioritize the interests of management and capital owners over those of employees, consumers, and the community, the demands placed on the company are increasing. These demands extend beyond management and capital owners to employees, customers, and society. Accounting plays a crucial role in managing the relationship between a company and its external environment. From an accounting perspective, social and environmental responsibility are distinct, particularly in reporting and reporting requirements [3].

The company's efforts to increase productivity and efficiency include the use of modern technology in the production of goods, the reduction of costs, the completion

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of mergers and acquisitions, and the utilization of more affordable resources. These measures are taken to ensure stakeholders receive the most favorable outcome possible. However, in the era of industrial revolution 4.0, business actors prioritize not only the owners and management of the company but also all parties related to the company in multiple ways, including employees, customers, society, and the environment. Since the interests of multiple parties cannot be separated from the company's existence. Environmental preservation is one of them. Productivity and efficiency frequently lead to improved environmental quality, mainly due to a decline in soil function. Environmental protection has long-term advantages for the company and benefits the surrounding community [4].

The application of environmental accounting by the company is an attempt by the company to satisfy the desires of its stakeholders. Since the focus of stakeholders is not solely on the financial aspects of the company but also on environmental aspects, such as whether or not the company strictly adheres to environmental standards. Consider the impact of the organization's operational activities on the surrounding environment. The use of environmental accounting, or what is commonly referred to as green accounting by businesses, is viewed favorably by their stakeholders. Due to the application of healthy environmental accounting, the company has paid attention to its environmental impact on its surroundings. The company is not only concerned with maximizing profits.

The company's main objective is the enhancement of company performance. According to De Beer and Friend [5], today's industry is becoming increasingly concerned with environmental factors because they believe it affects the company's finances. The business hopes that by improving its environmental performance, it will also be able to improve its financial performance. Humanity's increasing awareness of the effects of environmental degradation on future life has led to a rise in expectations for the entire society. Because protecting the environment is not only beneficial for the surrounding community but also the company's long-term success. Accounting science contributes to the advancement of science by including environmental costs in its financial statements. In Europe, green accounting was recognized for the first time in the 1970s and began to take shape [6]. Green accounting refers to a form of accounting that includes costs associated with the environment [7]. Green Accounting is an effort to improve the company's economic performance without negatively impacting the environment. The term for this initiative is "greening" the accounting process.

Based on the information presented above, this study aims to investigate the influence of green accounting on company profitability. The study is also incorporating environmental performance to examine the influence on company profitability. As regulated by Indonesian government, PROPER is used to control the company environmental performance.

2 Method and Data

This study uses a quantitative type with a descriptive approach. This method is systematic and structured research. The population used is all industries that are included in the primary and chemical industry sectors that are listed on the IDX and publish an annual report in 2021, while the sample uses purposive sampling with the following criteria:

No	Description	Quantity
1	Basic Industry and Chemical Sector on the IDX in 2021	169
2	Companies that do not get a PROPER rating in 2021	(103)
3	Number of samples used	66
4	**Final sample total**	**66**

2.1 Operational Definition

The operational variable determines the construct so that it becomes a variable that can be measured. The operational definition describes a certain way that researchers can use in operationalizing the construct, making it possible for researchers to replicate measurements in the same way or develop better ways of measuring constructs [8]. This study consists of two independent variables, are Green Accounting and Environmental Performance, and the dependent variable is Company Profitability. The explanation of each of these variables is as follows:

Variable	**Concept**	**Indicator**	**Scale**
Green Accounting (X1)	The total environmental costs incurred by the company in one year.	• $Gr.Acc = \frac{totalcost}{environmentalcost}$	Ratio
Enivroment Performance (X2)	Company performance in creating a good environment	Refers to the **PROPER** color rating obtained by the company: 1 = Very bad/black 2 = Bad/red color 3 = Good/color blue 4 = Very good/green color 5 = Very good/golden color	Ratio
Company Profitability (Y)	Profitability is the company's ability to earn profits in relation to sales, total assets, and own capital.	• $ROA = \frac{netprofit}{totalassets}$ • $ROE = \frac{netincome(Annual)}{shareholder's\ sequity}$	Ratio

2.2 Data Analysis Technique

In analyzing the data in this study, the STATA MP16 application was used by performing the following series:

2.2.1 Descriptive Statistics

In descriptive statistics, it is described with data that can be seen from the mean, standard deviation, maximum, minimum, sum, range [9].

2.2.2 Normality Test

The normality test aims to determine whether the data used in this study is normally distributed or not by using the Kolmogrov Smirnov Test method in measuring a small sample of data validly and effectively.

2.2.3 Multicollinearity Test

The multicollinearity test aims to determine whether the data used in this study has an indication of multicollinearity between independent variables or not by using the VIF value which can also be called the tolerance value.

2.2.4 Heteroscedasticity Test

The heteroscedasticity test aims to determine whether the data used in this study contains indications of heteroscedasticity, because a data test that is said to be good is data that has homoscedasticity test results.

2.2.5 Correlation Test

The correlation test aims to find out how far the relationship between the independent variables and the dependent variable is. Therefore, the researcher used the Durbin Watson test model.

2.2.6 Hypothesis Testing

The partial hypothesis test (t-test) aims to determine the individual significance level of the independent variable on the dependent variable. If the result of the probability level is less than 0.05, it can be said that the independent variables used, namely green accounting and environmental performance have an influence on the company's profitability variables [10].

2.2.7 Test Adjusted R2

Adjusted R2 test aims to determine the ability of the independent variable used to explain the dependent variable [11]. If the results of Adj-R2 are close to the value of 1, it can be concluded that the independent variable can provide all information on the dependent variable used by the researcher. Conversely, if the results of Adj-R2 are getting closer to the value 0, it can be concluded that the independent variable is less able to provide information on the dependent variable used by the researcher [12].

3 Result and Discussion

3.1 Green Accounting Influences on the Company's Profitability

Green accounting is accounting that identifies, measures, evaluate and discloses costs associated with environmental company activities [13]. Green accounting is the process

of incorporating environmental consequences into financial statements. Green accounting is a method for reporting a company's environmental cost. The objective is to provide information on the company's environmental performance. Voluntary factors are the primary impetus for businesses to report environmental issues [14]. Environmental accounting provides internal and external stakeholders with reports. The purpose of environmental accounting is to serve as a tool for environmental management and as a communication tool with the community, as well as to increase the amount of relevant information made available to those who need or can use it so that they are aware of the company's efforts to combat environmental pollution and its obligations on this issue through financial reports. Environmental accounting reports a company's operations concerning environmental costs [15]. In addition to focusing on economic and social aspects, companies that wish to achieve corporate sustainability must also focus on environmental aspects to ensure the company's continued existence and environmental sustainability [16].

The application of green accounting has been regulated for companies that refer to Government Regulation No. 47 of 2012, where limited liability companies have social and environmental responsibilities when operating a business related to natural resources [17]. However, there are still a large number of companies that are not overly concerned with responsibility. According to stakeholder theory, all company activities must provide benefits to stakeholders.

Aniela's [18] research indicates that the application of green accounting positively affects financial performance because it will reflect the company's business ethics and increase social trust from stakeholders, thereby sending a positive signal to the community and affecting the company's profitability.

H1: Green Accounting influences on company profitability

3.2 Environmental Performances Influences on the Company's Profitability

Environmental performance refers to the impact and damages the company's operations have had on the environment. Management of the company's waste disposal and management to minimize environmental damage around the factory and maximize business productivity. The less environmental damage a company causes, the better its environmental performance, while the environmental damage it causes, the worse its performance.

The Minister of Environment Regulation Number 03 of 2014 concerning PROPER is a method of evaluating the company's compliance in the field of controlling pollution and environmental damage, as well as how to manage waste, which is determined by performance ratings in the gold, blue, green, red, and black categories. The rating will enhance the company's reputation among stakeholders and users of financial statements, as the company will be viewed as caring about the environment, which will positively impact its profitability. The company's reputation will be a positive indicator for its annual report users, who will respond positively.

H2: Environmental Performance influences on company profitability

3.2.1 Descriptive Statistics

Based on the results above, it shows that N or the amount of data for each valid variable is 66, from 66 sample data Profitability (Y), the minimum value is 0.027, the maximum value is 46.55, from the 2021 period, the mean value is 13.4212, and the standard deviation value is 13.4212. 10,92758 means that the mean value is greater than the standard value so that the deviation of the data that occurs is low, so the distribution of the values is evenly distributed.

	N	Minimum	Maximum	Mean	Std. Deviation
Gr. Acc	66	2.00	8.00	3.9123	1.97557
Env.Performance	66	9.87	16.78	13.8072	1.54895
Profitability	66	.27	46.55	13.4212	10.92758
Valid N	66				

Green Accounting (X1) from 66 samples, it is known that the minimum value is 2.00, the maximum value is 8.00, the mean value for the 2021 period is 3.9123, and the standard deviation value is 1.97557. The data deviation that occurs is low, and the distribution of the values is evenly distributed.

Environmental Performance (X2) from 66 samples, it is known that the minimum value is 9.87, the maximum value is 16.78, the mean value for the 2021 period is 13.8072, and the standard deviation value is 1.54895 is low, the distribution of values is even.

3.3 Classic Assumption Test Results

The classical assumption test consists of normality, multicollinearity, autocorrelation, and heteroscedasticity tests in order to meet the sample criteria and can be continued in the linear regression test. Here are the results of the analysis:

Test Type	Gr. Acc	Env.Performance	Description
Normality test	.200		*sig*
Kolmogrov Smirnov Result			
Multicollinearity Test			
Tolerance	.963	.963	*sig*
VIF	1.039	1.039	*sig*
Heteroscedasticity Test			
Scatter Plot			The pattern is spread and there is no special forming pattern
Glejser Test	.261	.052	*sig*
Correlation Test			
Durbin Watson Test Result	1.666		

3.3.1 Normality Test Results

The results of the classical assumption test show a significance value of 0.200, which means that the data is normally distributed because it exceeds the 0.05 sig normality level. The results of the normality test in the multiple linear regression model of this study were met.

3.3.2 Multicollinearity Test Results

The results of the classical assumption test show that the tolerance of each variable is 0.963 and also the VIF of each variable is 1.039, so that in this test it is free from multicollinearity data and is fulfilled.

3.3.3 Heteroscedasticity Test Results

The results of the classical assumption test show that each independent variable through the glejser test is worth 0.261 and 0.052, which exceeds a significance of 0.05 so that this data is free from heteroscedasticity and deserves to be tested for multiple linear regression and the scatter plot shows an irregularly distributed pattern.

3.3.4 Correlation Test Results

The results of the classical assumption test show that the Durbin-Watson value is 1.666. The appropriate dU value is 1.6120 so that the DW value has exceeded DU and is less than (4–1.666) which is 2.334, so this data is free from autocorrelation problems and is fulfilled to perform multiple linear regression.

3.4 Multiple Linear Regression Analysis

3.4.1 Simultaneous Test (F)

The results of the regression test stated a significance value of 0.032, which is <0.05, so that in this case it can be interpreted that Profitability is influenced simultaneously by Green Accounting and Environmental Performance variables.

Unstandardized Coefficients			
Model		B	Std. Error
1	(Constant)	.251	.069
	Gr. Acc	.011	.015
	Env. Performance	.055	.023

Test Type	Gr. Acc	Env.Performance	Description
F Test	.032		*sig*
F Test Result			
t Test			
t Test Result	.044	.020	
	significant	significant	
Coefficient of Determination			
R-Square Result	.845		15.5% influenced by other variables

3.4.2 Partial Test (t)

The results of the regression test state that the significance value of the Green Accounting variable is 0.044 and the Environmental Performance variable is 0.020, so it is interpreted that the Green Accounting variable has a partial effect on the dependent variable of company profitability because it is less than 0.05, with this H1 in this study is accepted. The environmental performance variable has a partial effect on the dependent variable of the company's profitability because it is less than 0.05 so that H2 in this study is accepted.

3.4.3 Coefficient of Determination

The results of the regression test show that R Square is 0.845. The magnitude of the influence of the independent variables of green accounting and environmental performance is 84.5% on the dependent variable of company profitability, while 15.5% gets the influence of other variables.

3.5 The Effect of Green Accounting on Company Profitability

This study demonstrates that green accounting impacts the profitability of businesses. Incorporating environmental costs, waste recycling, and research and development costs into their business operations set a standard for consumers and investors. The imposition of costs for the environment will also reduce the capital owned by the company, as it is a burden that the company must finance in order for companies to prioritize their production processes in order to maximize profits, and it is still optional for the company to disclose costs associated with green accounting. The imposition of environmental costs also inspires consumer confidence, which affects sales and profits; consequently, environmental accounting becomes the company's top priority. According to the theory of signaling, annual report users will receive a positive signal if the information obtained from the company itself is considered accurate.

3.6 The Effect of Environmental Performance on Company Profitability

This study demonstrates that environmental performance affects profitability of businesses, which creates an excellent or green environmental performance for companies that have received a rating from KLH through the PROPER program, as it sends a positive signal to investors and enables the company to obtain credit. Because it has partnered with Bank Indonesia to offer different credit terms to companies with a GOOD rating from KLH, this rating improves the company's image and reputation in the eyes of consumers and annual report readers, as it is viewed as having contributed to more significant concern for the environment and a gradual reduction in the negative impact of the company's business processes.

The company has persuaded consumers, investors, and the public due to its compliance with applicable regulations. Signaling theory explains that if the information obtained from the company itself is deemed accurate, users of the annual report will receive a positive signal. Consumers and investors have accepted environmental performance as a basis for action. According to stakeholder theory, all company business processes involve stakeholders. According to the research of Wijaya & Nuryatno [19], and Al-Tuwaijr, et al. [20], environmental performance affects a company's economic performance. It has been demonstrated that environmental performance stimulates economic performance, especially when coupled with a company's attainment of a PROPER rating. This promotes a positive corporate image and incentivizes creditors to extend credit.

4 Conclusion

Profitability as measured by Return on Assets (ROA) and Return on Equity (ROE), has a significant positive effect on company profitability, if a business has an environmental component, an environmental cost component, and a recycling cost. Costs associated with product reuse and ecological research and development. In other words, the company's profitability will increase if it applies green accounting in its annual report.

Based on the results of the regression test above, environmental performance has a positive effect on company profitability (ROA and ROE), meaning that the higher the PROPER rating, the greater the company's profitability. Companies are advised to be more concerned about the environment because their business processes must rely on natural resources that are detrimental to the environment and the people who experience it. Businesses must create a green background to have a more significant positive impact on the environment or industry.

Based on the results of this study, suggestions can be given to further researchers regarding the use of several variables or other industrial sectors related to economic performance that are still in the environmental context, such as ecological disclosure. This research can also be a consideration for businesspeople in making decisions. Based on the results of the discussion that has been described previously, this study concludes that Green Accounting has a positive effect on profitability, both profitability is measured by ROE and ROA. In addition, environmental performance positively affects business profitability. This study only considers green accounting and environmental performance

variables. Other variables reflecting the company's ecological concerns can be used for additional research.

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