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The Impact of Environmental Performance, Environmental Costs and Company Size on Company Profitability

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Abstrak

Penelitian ini bertujuan untuk menganalisis dampak kinerja lingkungan, biaya lingkungan, dan ukuran perusahaan terhadap profitabilitas perusahaan di sektor Bahan Baku yang terdaftar di BEI tahun 2021-2023. Pemaksimalan laba tanpa memperhitungkan dampak operasi dapat berdampak buruk. Profitabilitas merupakan variabel dependen dalam penelitian ini, sedangkan variabel yang bersifat independen adalah kinerja lingkungan, biaya lingkungan, dan ukuran perusahaan. Pengambilan sampel secara purposive menghasilkan sampel sebanyak delapan belas perusahaan. Analisis regresi linier berganda dilakukan terhadap data menggunakan SPSS 25. Hasil penelitian menunjukkan bahwa meskipun ukuran perusahaan memiliki dampak negatif terhadap profitabilitas, kinerja lingkungan dan biaya lingkungan memiliki dampak positif.
Kata kunci: Kinerja Lingkungan; Biaya Lingkungan; Ukuran Perusahaan; Profitabilitas

Abstract

This research is to analyze the impact of environmental performance, environmental costs, and company size on the profitability of companies in the Basic Materials sector listed on the IDX in 2021-2023. Profit maximization without taking the impacts of operations into account can have unfavorable impacts. Profitability is the dependent variable in this research, and the variables that are independent are environmental performance, environmental costs, and company size. Purposive sampling produced a sample of eighteen company. Multiple linear regression analysis was performed on the data using SPSS 25. The results demonstrate that while company size has negative impacts on profitability, environmental performance and environmental costs have positive impacts.
Keywords: *Environmental Performance; Environmental Cost; Company Size; Profitability*

INTRODUCTION

Profit maximization aims to increase a company's earnings without taking the impacts of its actions into account. This can have serious consequences. Modern industry is fully aware that, in addition to achieving profits, Businesses need to be mindful of social and environmental challenges as well. (Pfilieger in (Sulistiawati & Dirgantari, 2016). Law Number 32 of 2009, which addresses environmental protection and management, was established by the Indonesian

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government. According to the legislation, every activity and business must manage, protect, and report the environment in a fair and acceptable manner. Through the Company Performance Assessment Program in Environmental Management (PROPER), which is run by the Ministry of Environment, the government has assessed a company's environmental management practices since it was established in 2002. Environmental performance is a business company interacts with the environment in terms of how resources are used, how organizational activities affect the environment, how products and services affect the environment, how product processing is recovered, and how environmental regulations are followed (Damanik & Yadnyana, 2017).

Company size is the most frequently discussed component in environmental performance research. According to Sutjipto in (Meiyana & Aisyah, 2019) assets other than the company's goods and property rights, are also costs that have not been charged at that time. This means that the asset consists of all the assets of the company, including the initial payment. The quantity of assets a corporation possesses determines its size. In carrying out corporate social responsibility in the environmental field, the company will carry out a number of activities linked to the environment. Environmental costs will be a result of these activities and will affect business costs. According to Hansen and Mowen in (Nurulrahmatiah et al., 2023) environmental costs that businesses bear during their operations are an outcome of their endeavors to preserve the environment. If the environmental management is not good, public trust will decrease, which will impact income and profitability, and may ultimately lead to investment withdrawal.

This research phenomenon has a big impact on society and the environment since it happens in the basic materials sector, which is involved in the discovery and processing of natural resources. Environmental management following manufacturing demonstrates the company's commitment to environmental preservation. The profitability impacts of environmental performance, environmental costs, and company size are the main topics of this study. The goals are to ascertain the following: (1) the simultaneous impacts on profitability of environmental performance, environmental costs, and company size; (2) the impacts of environmental performance on profitability (3) the impacts of environmental costs on profitability; and (4) the impacts of company size on profitability.

Literature review

The combined impact of environmental performance, environmental costs, and company size on profitability.

Environmental performance variables, environmental costs, and business size simultaneously impact profitability. According to research (Setiadi, 2021), environmental costs, environmental performance, and overall business size affect financial performance or business profitability.

H1 : The environmental performance, environmental costs, and company's size all positively and significantly affect profitability at the same time.

The relationship between profitability and environmental performance

The theory of stakeholder legitimacy emphasizes the importance of alignment with society, and company participation in PROPER follows suit. Factors that improve a company's reputation and reduce risk are usually the basis of an investor's decision. Environmental performance increases profitability, according to research (Wangi & Lestari, 2020). However, environmental performance did not have a positive impact on the research (Asjuwita & Agustin, 2020). Taking into account the earlier justification, the present hypothesis is as follows:

H2 : Environmental performance has a positive and substantial impact on profitability.

The relationship between profitability and environmental costs

If companies fail to control environmental costs, they will have difficulty gaining public support, which will impact their profitability. Research indicates that environmental costs have a positive impact on financial performance (ROA) (Nababan & Hasyir, 2019). However, studies indicate that environmental expenses have negative impacts (Meiyana & Aisyah, 2019). Taking into account the earlier justification, the present hypothesis is as follows:

H3 : Environmental costs have a positive and substantial impact on profitability.

The relationship between profitability and company size
The level of investor confidence and their interest in investing is influenced by the size of the company. Research (Setiadi, 2021) company size has a positive impact on profitability. In contrast, to research (Simamora et al., 2022) found that company size has a significant negative impact on profitability. Based on the previous explanation, the following hypothesis is proposed:
H4 : Company size has a positive and substantial impact on profitability.

METHOD

Quantitative data are used in this investigation. Research data that can be examined using statistics and is represented as numbers is known as quantitative data (Sugiyono, 2019). Purposive sampling is used to obtain samples from the research population, which is the list of basic materials sector companies for 2021–2023 on the IDX. According to (Sugiyono, 2019), purposive sampling is a method of taking research using certain characteristics or criteria based on the object being studied. The sampling criteria in this study are as follows:

1. Basic materials companies that are consecutively listed on the Indonesia Stock Exchange (IDX) in 2021–2023;
2. Basic materials companies that publish consecutive annual financial reports in 2021–2023;
3. Basic materials companies that are registered with PROPER in the 2021–2023 period;
4. Companies in the basic materials sector that publish their annual reports for the 2021–2023 year using the rupiah unit.

18 companies matched the study's sample criteria. According to (Bahri & Cahyani, 2016), environmental performance can be measured by companies that participate in PROPER, which is an instrument of the Ministry of Environment (MOE). The PROPER system includes 5 colors for company ratings, which include: Gold score 5; Green score 4; Blue score 3; Red score 4; Black score 1.
Comparing the costs required for corporate social responsibility (CSR) initiatives to net income is a way of calculating a measure of environmental costs (Hadi, 2011).

$$Enviromental\ Cost = \frac{Cost}{Profit}$$

The company size indicator can be calculated using the formula LN Total Assets or Logarithm Natural Assets (Setiadi, 2021). Profitability can be measured by using Return on Assset (ROA) which is one of the most frequently used financial ratios (Pratiwi et al., 2021).

$$\text{Return on Asset} = \frac{Net\ Profit\ after\ Tax}{Total\ Assets}\ x\ 100$$

The SPSS version 25 software was utilized to analyze research data utilizing multiple linear regressions, hypothesis testing, classical assumption testing, and descriptive statistical tests. The regression equation this investigation produced is as follows:
$Y = \alpha + \beta X1 + \beta X2 + \beta X3 + e$
Information:

a	= Constant
β	= Regression coefficient
Y	= Dependent Variable (Profitability)
X1	= Independent Variable (Environmental Performance)
X2	= Independent Variable (Environmental Costs)
X3	= Independent Variable (Company Size)
e	= Error.

RESULTS AND DISCUSSIONS

Result

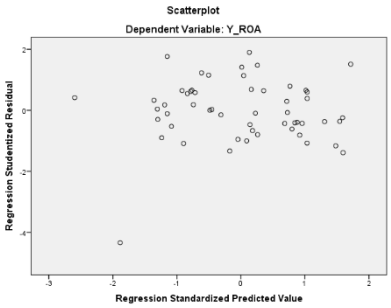
Descriptive Statistics

The environmental performance variable is characterized by a standard deviation of 0.8965, an average of 3.370, a maximum of 5, and a minimum of 1. A standard deviation of 0.0411051, an average of 0.011129, a maximum of 0.1521, and a low of -0.1278 are used to illustrate the environmental cost. The company size is shown as follows: a minimum of 27.6432, a maximum of 32.0494, an average of 29.4929, and a standard deviation of 1.2356. The values of the profitability variable are as follows: the lowest value is -28.2380, the highest value is 20.5466, the average value is 5.3002, and the standard deviation is 7.2857.

Classical Assumption Test

The normality test is indicated by the Asymp. Since Sig is 0,200 (> 0,05), the distribution of the data is normal. There was no connection between the independent variables, as indicated by the multicollinearity test, which also revealed that no variables had a tolerance of less than 0.10 or a VIF more than 10.

Figure 1. ScatterPlot Test result



The Heteroscedasticity test can be known from the analysis of data points, It is evident that the distribution does not congregate on one side and does not exhibit any particular pattern, such as waves, both above and below the number 0. It follows that there isn't a heteroscedasticity issue. The autocorrelation test's findings are indicated by the Durbin-Watson value of 1.886. At alpha 0.05, the table's du value is 1.6800 with k=3 and n=54, and 4-du = 2.32. As the Durbin-Watson value falls within du < dw < 4-du (1.6800 < 1.886 < 2.32), it may be said that the data do not exhibit an autocorrelation symptom.

Multiple Linear Regression Analysis

Tabel 1. Multiple Linier Analysis test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	90,881	28,258		3,216	,002
	X1_Enviromental_Performance	3,819	1,423	,470	2,683	,010
	X2_Enviromental_Cost	54,497	23,825	,307	2,287	,026
	X3_Company_Size	-3,359	1,065	-,570	-3,152	,003

With the regression equation, it is known that the independent and dependent variables have the following relationship: Y = 90.881 + 3.819 (X1) + 54.497 (X2) + (-3.359) (X3). A unidirectional relationship between environmental performance, environmental expenses, and company growth and profitability is indicated by the positive constant. An increase in profitability is shown by positive regression coefficients for environmental costs and environmental performance factors. A negative coefficient, on the other hand, denotes a drop in profitability with increasing company size.

Determination Coefficient Test R^2

Table 2. Determination Coefficient Test R^2

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,442[a]	,196	,147	6,7271269	1,886

The adjusted determination coefficient (R^2) value, as reported by the test, was 0.147, or 14.7%. This indicates that environmental performance (X1), environmental expenses (X2), and company size (X3) account for 14.7% of the variation in profitability (Y), whereas other factors including liquidity, fixed assets, leverage, and total asset turnover account for 85.3% of the variation.

Hypotesis Test

Tabel 3. F-Test (simultaneous)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	550,585	3	183,528	4,055	,012[b]
	Residual	2262,712	50	45,254		
	Total	2813,297	53			

The F-test, also known as concurrent testing, is a statistical tool used to assess the significant simultaneous impact of independent factors on dependent variables. An ANOVA with F count 4.055 > F table 2.790 yields a significance level of 0.012, which is less than 0.05. This suggests that Hypothesis 1, which states that profitability depends simultaneously by environmental performance, environmental expenses, and company size, must be correct.

The T test shows the influence of each variable X on Y. Environmental performance has sig. 0.010 and t count 2.683, indicating a significant positive influence. The environmental cost is also significant with sig. 0.026 and t counts 2.287. In contrast, the size of the company has a sig. 0.003 and t calculated -3.152, indicating a negative influence on Y.

Discussions

According to the study's first hypothesis, profitability is impacted concurrently by environmental performance, environmental costs, and company size. Since all three independent factors had a significant impact on the dependent variable Y, as indicated by the F test findings, H1 was approved. According to the second hypothesis, environmental performance significantly has a positive impact on profitability. The results of this study prove that H2 is accepted. According to (Asjuwita & Agustin, 2020), profitability was not positively impacted by environmental performance. Nonetheless, these findings are consistent with (Dewi, 2019),

which demonstrates that raising environmental performance boosts profitability. This is further reinforced by the PROPER program, which inspires greater trust in the public and among investors. According to Wangi and Lestari's research findings, a company's profitability level will rise in the event that its environmental performance improves. Thus, the government genuinely hopes that through PROPER, all businesses would be held more accountable to the environment by focusing on performance and setting standards. Despite the fact that corporations will incur increased expenditures in order to allocate cash for conservation and repair environmental consequences, the low degree of environmental harm will boost investor and public trust.

According to the study's third hypothesis, environmental costs positively and significantly impact profitability. The analysis's results indicated that H3 was approved. Contrary to studies from (Meiyana & Aisyah, 2019), that claims that's environmental costs have a negative impact on financial performance. Nonetheless, in keeping with studies from (Nababan & Hasyir, 2019), that indicate that environmental costs increase the profitability. The results of the study from (Nababan & Hasyir, 2019), also show that a company's increased environmental costs have an impact on its enhanced financial performance. The study's data suggests corporations can enhance their financial performance by implementing environmental costs. Stakeholders are drawn in when environmental costs are included in financial statements, and the public tends to trust businesses that practice excellent environmental management. Positive trust has a good impact on the sales and profitability of the business.

According to the study's fourth hypothesis, a company's size positively and significantly affects its profitability. H4 was rejected because data analysis revealed that the company's size had a negative impact on profitability. This goes against the notion that a larger corporation will own more assets and be better able to manage those assets to generate profits. High asset maintenance expenses and a scope of operations that is out of proportion to profits could be the cause of the financial performance drop. This outcome is in line with research from (Wufron, 2017) which indicates that total assets have a substantial and negative impact on financial performance, as opposed to research from (Setiadi, 2021) it demonstrates that a company's size positively affects its profitability. This outcome supports the claim stated by (Aruan et al., 2021) that a company's size directly relates to the quantity of its assets and the amount of money it needs to continue operating. The information results in the conclusion that a larger corporation is more likely to face competition and regulatory scrutiny, have a more complicated organizational structure, and incur higher operating costs. Stricter regulations and more competition might drive up costs and lower a company's profit margins.

CONCLUSION

Research into how environmental performance, environmental costs, and company size affect profitability in companies that are listed on the Indonesia Stock Exchange led to the following findings:

1. Environmental performance, environmental costs, and company size simultaneously have a substantial impact on the profitability;
2. Environmental performance partially has a positive and substantial impact on the profitability;
3. Environmental costs have a positive and substantial impact on the profitability;
4. The size of the company has a negative impact on the profitability.

Based on this study, the researcher provides the following suggestions:

1. For future researchers, use this research as a reference and consider adding other variables besides environmental performance, environmental costs, and company size, given the coefficient of determination (R^2) which is only 0.147.

For investors and potential investors, the study's findings can be utilized to comprehend the company's financial standing and probability of survival before making an investment..

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