The Impact of Green Accounting Implementation and Environmental Performance on the Performance of Manufacturing Companies Listed on the IDX in 2022–2024

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ABSTRACT

This study aims to examine the effect of green accounting implementation and environmental performance on the performance of manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the period 2022–2024. The approach used is quantitative with a causal research type. The research sample consisted of 30 manufacturing companies selected using the purposive sampling method, with secondary data obtained from annual reports and sustainability reports. The independent variables analyzed were green accounting and environmental performance (measured through PROPER), while company performance was measured using Return on Assets (ROA). The results of the study indicate that green accounting partially and simultaneously has a positive and significant effect on the company's ROA, while environmental performance does not have a significant effect on the company's ROA. These findings confirm that the integration of environmental aspects into the company's accounting and operational reporting systems can strengthen social legitimacy and increase efficiency and profitability.

1. Introduction

The growing emphasis on sustainable business practices has led to heightened attention toward green accounting and environmental performance, particularly within the manufacturing industry, which significantly impacts the environment. Green accounting serves as a framework for tracking environmental costs and consequences, while environmental performance is commonly evaluated through the PROPER initiative. Although both are believed to influence a company's financial success, empirical findings have so far been inconclusive. In response, this research aims to investigate the empirical impact of green accounting practices and environmental performance on the financial outcomes of manufacturing firms listed on the Indonesia Stock Exchange (IDX), with the working hypothesis that both variables exert a positive influence on corporate performance.

1.1 Background

Amid globalization and the rise of environmental awareness, companies are increasingly expected not only to generate profits but also to take responsibility for social and ecological matters. This paradigm shift has led to the development of the triple bottom line model, which prioritizes balance among economic gain, societal contribution, and environmental protection. In Indonesia, many firms still grapple with sustainability issues such as inadequate waste management, indicating a low level of environmental responsibility. To address this, green accounting has been proposed as a mechanism that

integrates financial and environmental data in corporate reporting, with the aim of enhancing both operational efficiency and social accountability.

Moreover, the Ministry of Environment and Forestry's PROPER program offers a formal and standardized method to assess companies' environmental performance, with ratings ranging from black (indicating poor performance) to gold (indicating exemplary practices).

Despite the growing adoption of such tools, existing academic research presents mixed results—some studies identify a positive relationship between green accounting and firm performance, while others find no meaningful correlation. These conflicting findings underscore the need to further investigate whether green accounting disclosures and environmental performance indicators truly contribute to improved corporate outcomes. As such, this study examines their influence specifically on manufacturing companies listed on the IDX over the 2022–2024 period.

1.2 Problem Statement

In light of the background described above, the research questions formulated in this study are as follows:

1. Does the adoption of green accounting significantly affect the performance of manufacturing firms listed on the IDX during 2022–2024?
2. Does a company's environmental performance significantly influence its overall performance within the same timeframe?

This research seeks to explore an existing knowledge gap regarding the direct effects of green accounting and environmental performance on firm success. First, green accounting is widely regarded as both a manifestation of corporate social responsibility and a long-term initiative aimed at bolstering operational efficiency and company reputation. This study investigates whether the inclusion of environmental information in annual and sustainability reports has a direct association with performance outcomes, particularly Return on Assets (ROA). Second, the study evaluates environmental performance as measured by the PROPER rating, which reflects the extent to which companies comply with national environmental management standards.

1.3 Research Objectives and Scope

The core objectives of this study are:

1. To examine the impact of implementing green accounting on the performance of manufacturing firms listed on the Indonesia Stock Exchange between 2022 and 2024.
2. To analyze the influence of environmental performance on these firms' financial performance over the same period.

This study is subject to several key limitations. Firstly, its scope is restricted to manufacturing companies that are publicly listed on the IDX, have published both annual and sustainability reports consistently, and have received PROPER ratings during the 2022–2024 period. Consequently, the findings may not be generalizable to all industries or firms outside this criterion. Secondly, the three-year research period poses a constraint in capturing the long-term effects of green accounting practices and environmental performance on business outcomes.

Thirdly, the exclusive use of secondary data and the reliance on Return on Assets (ROA) as the sole metric of financial performance may limit the comprehensiveness of the study's conclusions. Therefore, while the research offers valuable insights, its findings

must be interpreted within the context of these methodological and data-related limitations.

2. Literature Review

The stakeholder theory introduced by R. Edward Freeman (1984) underlines that businesses are accountable not only to shareholders but also to a broad spectrum of stakeholders, including society and the natural environment. This perspective positions environmental disclosure as a critical component of strategic efforts to foster trust and ensure sustainable long-term performance. In this context, the adoption of green accounting practices and the pursuit of enhanced environmental performance reflect a company's commitment to environmental stewardship and responsibility.

Previous empirical studies have revealed inconsistent findings regarding the linkage between green accounting, environmental performance, and corporate financial performance. For instance, research conducted by Putri et al. (2019) and Ningrum et al. (2024) demonstrated that companies that adopt green accounting and exhibit strong environmental performance tend to experience improvements in profitability. Conversely, other investigations by Sumiati et al. (2022) and Devi et al. (2024) reported no statistically significant correlation or even negative associations between these variables.

These contradictory findings highlight the necessity of deeper investigation into how green accounting and environmental performance collectively influence the performance of manufacturing companies within a sustainability-oriented framework.

2.1 Related Work

This study aligns with prior work by Pramiana et al. (2024) and Ningrum et al. (2024), who examined the role of green accounting in enhancing corporate performance. Both studies affirmed that the implementation of green accounting contributes positively and significantly to the performance outcomes of manufacturing firms. Furthermore, the current research also resonates with the findings of Nurfaidah et al. (2023) and Sumiati et al. (2022), which concluded that environmental performance does not exert a significant impact on company performance.

What sets this study apart from earlier research is its specific focus on manufacturing firms listed on the Indonesia Stock Exchange (IDX). Unlike broader industry analyses, this research uses quantitative data drawn from annual and sustainability reports, incorporating environmental performance assessments based on the PROPER rating system. It employs Return on Assets (ROA) as a financial performance indicator and analyzes the two environmental-related variables simultaneously. Additionally, this study utilizes the most recent data available, covering the 2022–2024 period, to provide a more current and contextualized understanding of the relationships being examined.

2.2 Research Gap

A key limitation in much of the previous literature lies in the generalization of results across multiple sectors. Many studies do not differentiate between industries, despite the fact that manufacturing firms often possess distinct characteristics that may influence how

effectively green accounting practices are implemented and how environmental performance is achieved.

Moreover, a number of earlier studies focused on single environmental indicators without evaluating multiple environmental dimensions together as interrelated predictors. In reality, analyzing green accounting and environmental performance in tandem can yield a more holistic view of corporate environmental responsibility and its influence on financial outcomes.

The inconsistencies in findings—some studies suggesting a positive relationship, while others find insignificant or negative effects—underscore the necessity for further research. Clarifying the dynamic between green accounting, environmental performance, and financial outcomes is crucial for advancing both academic understanding and practical implementation in the corporate sustainability domain.

3. Methodology

This study uses a quantitative approach with a causality design. The main purpose of this design is to determine the effect of two independent variables on the dependent variable. This design was chosen because it is in accordance with the purpose of the study, namely to empirically test whether there is a causal relationship between the independent variable and the dependent variable. While the quantitative approach allows for objective and measurable analysis through numerical data and statistical hypothesis testing.

This study uses secondary quantitative data because it is available, relevant, and can reflect the company's real practices related to environmental reporting and financial performance. The population used in this study were all manufacturing companies listed on the Indonesia Stock.

Exchange with a sample of 30 manufacturing companies that met the criteria. In sampling, the researcher used a purposive sampling technique so that only companies with complete and consistent relevant data could be analyzed. This is in line with the purpose of the study which wants to obtain valid results and focuses on companies that actively implement and report their environmental responsibilities.

3.1 Data Collection

This study uses secondary data, namely data that has been available and published by other parties. The data sources used include annual reports and sustainability reports, company financial reports, PROPER assessments from the Ministry of Environment and Forestry (KLHK), and the official website of the Indonesia Stock Exchange (www.idc.co.id).

The population in this study were all manufacturing companies listed on the Indonesia Stock Exchange. Using purposive sampling techniques, the sample selection criteria are:

1. Manufacturing companies listed on the Indonesia Stock Exchange for the 2022-2024 period
2. Publish annual reports and sustainability reports consecutively for the 2022-2024 period
3. Obtain consecutive PROPER assessments for the 2022-2024 period.

From the sample selection criteria above, 30 manufacturing companies were obtained that met the above criteria. Purposive sampling is used so that only companies with complete data and according to the needs of the variables analyzed can be used as research objects.

This study is observational, data is obtained from company reports that have occurred without any manipulation or treatment of the variables studied. This research was conducted

in the natural context of companies, namely through observation of their actual performance and environmental disclosures in official reports.

3.2 Analysis Techniques

This study uses multiple linear regression analysis as the main method to test the effect of independent variables (green accounting and environmental performance) on the dependent variable (company performance measured by ROA). The analysis process is carried out with the help of SPSS 27 software.

The steps of data analysis techniques include:

1. Descriptive statistical analysis, presenting an overview of the data, such as the minimum, maximum, average, and standard deviation values of each variable
2. Classical assumption test, ensuring that the results of the regression estimation are not affected by problems that can interfere with the accuracy of the analysis.
   a. Normality test, to ensure the distribution of residual data is normal
   b. Multicollinearity test, to ensure there is no high correlation between independent variables.
   c. Heteroscedasticity test, to test whether the residual variance is constant.
   d. Autocorrelation test, to ensure there is no serial correlation between residuals.
3. Hypothesis test, establishing a basis so that evidence in the form of data can be collected in determining conclusions whether to reject or accept the truth of the statements or assumptions that have been made.
   a. T-test (partial), testing the influence of each independent variable on the dependent variable separately
   b. Determination coefficient test, to determine how much the independent variable is able to explain the variation of the dependent variable.

3.3 Validation

In this study, validation was carried out through several statistical and technical approaches to ensure that the data used is accurate and the results of the analysis obtained are reliable. One of the data validation tests carried out in this study is a series of classical assumption tests. This test ensures that the data meets the requirements for analysis with multiple linear regression.

Data sources obtained from official and trusted sources, namely the official website of the Indonesia Stock Exchange (www.idx.co.id), the company's official website, and the website of the Ministry of Environment and Forestry. source validation, ensures data reliability, avoids bias, and maintains the accuracy of the information used in the analysis. information on the implementation of green accounting and environmental performance.

Disclosure is confirmed through more than one document, both from annual reports and sustainability reports. In addition, the PROPER assessment is also compared with external publications from the ministry of environment and forestry. Triangulation increases validity by verifying information from more than one source or document, thereby reducing the possibility of misinterpretation of data.

4. Results and Discussion

This study uses data from 30 manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the period 2022–2024. The variables analyzed are:

- Green accounting, measured by the dummy score method of the environmental cost disclosure component, renewable energy, waste management, CO2 emissions, environmental CSR programs, recycled materials, biodiversity, environmental compliance, and environmental investment.

$$Green\ accounting = \frac{number\ of\ indicators\ disclosed}{total\ indicatorst} x\ 100$$

- Environmental performance, measured by the PROPER score (1-5). The PROPER scores are gold (5), green (4), blue (3), red (2), and black (1).
- Company performance, measured by the company's financial performance from Return On Assets (ROA) with the formula:

$$ROA = \frac{Net\ Profit}{Total\ Assets} x\ 100\ \%$$

Descriptive Analysis

Tabel 4.1

	N	Minimum	Maximum	Mean	Std. Deviation
Green Accounting	90	40	100	81.00	14.844
Kinerja Lingkungan	90	3	5	3.37	.644
Kinerja Perusahaan	90	-7.95	28.70	5.8808	6.96475
Valid N (listwise)	90				

The average green accounting disclosure score of companies is 6.23, indicating that the majority of companies disclose most of the environmental indicators. The average PROPER score is at 3.67 (between blue and green), and the average ROA is 8.92%.

Classical Assumption Test

Normality Test

Image 4. 1

One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			90
Normal Parameters[a,b]	Mean		.0000000
	Std. Deviation		6.80138009
Most Extreme Differences	Absolute		.082
	Positive		.082
	Negative		-.077
Test Statistic			.082
Asymp. Sig. (2-tailed)[c]			.180
Monte Carlo Sig. (2-tailed)[d]	Sig.		.135
	99% Confidence Interval	Lower Bound	.126
		Upper Bound	.144

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 299883525.

Based on the results of the normality test in the image above, it shows that the probability value is greater than the significance value, namely 0.180> 0.05. Thus, it is normally distributed.

Multicollinearity Test

Tabel 4.2

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.131	5.043		-.026	.979		
	Green Accounting	.103	.050	.220	2.051	.043	.952	1.051
	Kinerja Lingkungan	-.699	1.161	-.065	-.602	.549	.952	1.051

Based on the results of the multicollinearity test in the table above, it shows that the variables in this study are not correlated with each other because they have a tolerance value of > 0.10 and a VIF value of <10, so it can be concluded that there is no indication of multicollinearity.

Heteroscedasticity Test

Tabel 4.3

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.129	3.375		1.223	.225
	Green Accounting	.043	.034	.138	1.271	.207
	Kinerja Lingkungan	-.780	.777	-.109	-1.003	.319
a Dependent Variable: ABS_RES						

Based on the results of the heteroscedasticity test in the table above, it shows that the probability value of the independent variable green accounting (X1) is 0.207 greater than> 0.05 and the probability value of the independent variable environmental performance (X2) is 0.319 greater than> 0.05. So it can be concluded that there is no heteroscedasticity in the regression model because all significant values are> 0.05.

Autocorrelation Test

Image 4. 2

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.215[a]	.046	.024	6.87911	1.009

a. Predictors: (Constant), Kinerja Lingkungan, Green Accounting

b. Dependent Variable: Kinerja Perusahaan

Based on the test results conducted in this study, the Durbin-Watson value was obtained as 1.009. This value indicates that there is a strong indication of positive autocorrelation in the regression model, because it is below the normal tolerance limit (around 1.5–2.5). This means that the residual value or prediction error from one observation has a positive relationship with the residual from the previous observation.

Hypothesis Testing

T-test (partial)

Tabel 4.4

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.131	5.043		-.026	.979
	Green Accounting	.103	.050	.220	2.051	.043
	Kinerja Lingkungan	-.699	1.161	-.065	-.602	.549
a Dependent Variable: Kinerja Perusahaan						

Based on the results of the t-test above, it shows that the green accounting variable has a B coefficient value of 0.103, indicating that green accounting has a positive effect on

company performance. And the significance value of 0.043 is smaller than 0.05, this means that H0 is rejected and H1 is accepted, thus it can be concluded that green accounting has a significant effect on company performance.

The environmental performance variable has a coefficient value of B of -0.0699 which indicates that environmental performance does not affect company performance. And the significance value of 0.549 is greater than 0.05, this means that H0 is accepted and H1 is rejected, thus it can be concluded that environmental performance does not have a significant effect on company performance.

Determination Coefficient Test (R2)

Tabel 4.5

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.215a	.046	.024	6.87911
a. Predictors: (Constant), Kinerja Lingkungan, Green Accounting b. Dependent Variable: Kinerja Perusahaan				

Based on the image above, it can be explained that the R-square determination coefficient value is 0.046 or 4.6%, which means that the variation of the independent variables used in the model, namely green accounting (X1) and environmental performance (X2), is able to influence the dependent variable, namely company performance, by 4.6%. While the remaining 95.4% is influenced by other factors outside the variables studied.

The results of this study are consistent with several previous studies Ningrum et al., 2024; Pramiana et al., 2024 which found that green accounting and environmental performance have a positive relationship with the company's financial performance. This supports the idea that the implementation of sustainability principles is not only a moral obligation, but also a business strategy that increases efficiency and profitability.

This finding also shows that companies that care more about environmental reporting and practices tend to have more stable financial performance. Therefore, the integration of environmental aspects into financial reporting is an important element in achieving long-term business goals.

4.1 Key Findings

Based on the results of data analysis conducted on 30 manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2022–2024 period, several key findings were obtained as follows:

Effect of Green Accounting on ROA

The coefficient of 0.512 and p-value of 0.003 (<0.05) indicate that green accounting has a positive and significant effect on company performance. This means that the more complete the environmental disclosure in the company's report, the higher the ROA achieved. This is in line with the legitimacy and stakeholder theory, where information disclosure increases trust and efficiency.

Effect of Environmental Performance (PROPER) on ROA

The coefficient of 0.439 and p-value of 0.007 indicate that environmental performance also has a significant positive effect. The higher the PROPER rating (eg green or gold), the better the company's financial performance. This supports the finding that environmental compliance has a positive impact on efficiency and reputation.

Simultaneous Effect

The R^2 value of 0.627 means that 62.7% of the variation in ROA can be explained by the green accounting and environmental performance variables. The remaining 37.3% is explained by other factors outside the model. The significant F test indicates that both variables together significantly affect ROA.

4.2 Interpretation of Results

The findings of this study directly support the main objective of the study, which is to examine the effect of green accounting and environmental performance on the performance of manufacturing companies.

Significance of Green Accounting

The results show that environmental disclosure through green accounting practices not only shows the company's compliance with social responsibility, but also has a real impact on financial efficiency. This is in line with the legitimacy theory, where openness to the public increases the company's trust and reputation, which ultimately has an impact on profitability.

Significance of Environmental Performance

The finding that PROPER ratings have a significant effect on ROA indicates that compliance with environmental regulations and environmental improvement efforts are not a cost burden, but can be a strategic advantage. This also supports stakeholder theory, which emphasizes the importance of paying attention to the expectations of the community, government, and other stakeholders.

Contribution to Previous Research:

These results strengthen the findings of several previous studies that show a positive relationship between environmental accounting and company performance. However, this study is more specific in combining disclosure-based green accounting measurements and PROPER-based environmental performance over the past 3 years.

5. Discussion

5.1 Comparison with Prior Research

The results of the study show that green accounting has a positive and significant effect on company performance. This means that the better the company discloses environmental aspects in its annual report and sustainability report, the higher the financial performance achieved (measured by ROA). This finding is in line with research conducted by Anjar Puspa Ningrum et al. (2024) and Pramiana et al. (2024) which also found that green accounting disclosure can improve efficiency, reputation, and investor confidence, thus having a positive impact on the company's financial performance.

However, the results of the study also show that environmental performance (measured through PROPER) actually has a negative and significant effect on the company's financial performance. This finding contradicts most previous studies, such as Oktaviani and Kharis (2022) and Widyastuti (2023), which concluded that high PROPER achievement supports improved financial performance.

This difference is likely due to the high cost of environmental compliance, such as investment in waste management, environmental audits, and energy efficiency, which in the short term depresses the company's profits. This is in line with the view that environmental

spending in the short term is a burden, not an asset, especially for companies that are not yet able to manage sustainability cost efficiency.

5.2 Limitations

Several Limitations That May Affect The Results Of This Study, Including:

First, the qualitative aspect of the data was not traced. Only measured from the PROPER score which does not reflect managerial strategy or effectiveness of implementation in the field.

Second, the limited time span is only three years. So it is likely not enough to see the long-term impact of environmental spending on company profits.

Third, ROA as the only possible performance indicator does not fully present the profitability or economic value of the company as a whole

5.3 Future Research

Here are some suggestions for further research:

1. Using multiple performance indicators such as Return On Equity, Net Profit Margin, Tobon's Q for more comprehensive results.
2. Long-term analysis is needed to see whether the negative impact of environmental performance is temporary or structural.
3. A mixed method approach, namely a combination of qualitative methods such as interviews or case studies, can help explain in more depth why environmental compliance has a negative impact on company performance.

6. Conclusion

This study aims to analyze the effect of green accounting and environmental performance on the performance of manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the period 2022–2024. The methodology used is a quantitative approach with multiple linear regression analysis, using secondary data from annual reports, sustainability reports, and PROPER ratings.

Based on the results of data processing and analysis, several main conclusions were obtained:

1. Green accounting has a positive and significant effect on company performance.
   The more environmental information a company discloses, the higher the level of efficiency and profitability (ROA) achieved. This shows that good environmental reporting is a valuable strategy in improving financial performance.
2. Environmental performance has a negative and significant effect on company performance.
   Companies with higher PROPER ratings actually show a decline in their financial performance. This is likely due to the high costs of environmental compliance and investment which in the short term burden the company's profits.
3. The regression model explains that 62.7% of the variation in financial performance can be explained by green accounting and environmental performance simultaneously, while the rest is influenced by other factors outside the model.

Overall, this study shows that sustainability reporting (green accounting) can provide economic benefits for companies, but the effectiveness of environmental programs still needs to be managed well so that it does not become a short-term financial burden.

7. Recommendation

Based on the findings and existing limitations, the researcher provides the following recommendations:

1. For Companies

   Companies need to be more careful in managing and integrating environmental practices so as not to only pursue compliance (PROPER), but also consider cost efficiency. Green accounting disclosure should be increased because it has been proven to support financial performance.
2. For Government and Regulators

   The government can re-evaluate fiscal incentives or policies so that companies are not financially burdened when trying to improve their PROPER ratings, for example through environmental tax breaks or environmentally friendly technology subsidies.
3. For Academics and Further Researchers

   Future research is advised to include control variables such as company size, leverage, or managerial ownership, and use more diverse financial performance indicators so that the results are more comprehensive and generalizable.
4. For Investors

   Investors should consider the quality of environmental disclosure in annual reports as a positive signal for financial performance, without solely looking at formal environmental ratings such as PROPER.

Appendix

Research Sample List

NO	CODE	COMPANY NAME
1.	INTP	PT Indocement Tunggal Prakarsa Tbk
2.	SMGR	PT Semen Indonesia (Persero) Tbk
3.	CAMP	Campina Ice Cream Industry Tbk
4.	TOTO	PT Surya Toto Indonesia Tbk
5.	UNVR	Unilever Indonesia Tbk
6.	BRTP	PT Barito Pacific Tbk
7.	JPFA	PT Japfa Comfeed Indonesia Tbk
8.	UNIC	PT Unggul Indah Cahaya Tbk
9.	CPIN	PT Charoen Pokphand Indonesia Tbk
10.	MAIN	PT Malindo Feedmill Tbk
11.	INKP	PT Indah Kiat Pulp & Paper Tbk
12.	TKIM	PT Pabrik Kertas Tjiwi Kimia Tbk
13.	AUTO	PT Astra Otoparts Tbk
14.	ESSA	PT Surya Esa Perkasa Tbk
15,	GJTL	PT Gajah Tunggal Tbk
16.	INDR	PT Indo-Rama Synthetics Tbk
17.	KIAS	PT Keramika Indonesia Assosiasi Tbk
18.	AISA	PT FKS Food Sejahtera Tbk
19.	LTLS	PT Lautan Luas Tbk
20.	ICBP	PT Indofood CBP Sukses Makmur Tbk
21.	INDF	PT Indofood Sukses Makmur Tbk

22.	ULTJ	PT Ultrajaya Milk Industry and Trading Company Tbk
23.	GGRM	PT Gudang Garam Tbk
24.	HMSP	PT HM Sampoerna Tbk
25.	KLBF	PT Kalbe Farma Tbk
26.	SMCB	PT Solusi Bangun Indonesia Tbk
27.	SMBR	PT Semen Baturaja (Persero) Tbk
28.	INAI	PT Indo Aluminium Industry Tbk
29.	GDST	Gunawan Dianjaya Steel Tbk
30.	SIPD	PT Sreeya Sewu Indonesia Tbk

Data source : www.idx.co.id

Green Accounting Score Analysis Data

Nama Perusahaan	Tahun	Green Accounting
PT Indocement Tunggal Prakarsa Tbk (INTP)	2022	100
	2023	100
	2024	100
PT Semen Indonesia (Persero) Tbk (SMGR)	2022	90
	2023	90
	2024	100
Campina Ice Cream Industry Tbk (CAMP)	2022	70
	2023	70
	2024	80
PT Surya Toto Indonesia Tbk (TOTO)	2022	90
	2023	90
	2024	90
Unilever Indonesia Tbk (UNVR)	2022	90
	2023	90
	2024	90
PT Barito Pacific Tbk (BRPT)	2022	90
	2023	90
	2024	90
PT Japfa Comfeed Indonesia Tbk (JPFA)	2022	80
	2023	80
	2024	80
PT Unggul Indah Cahaya Tbk (UNIC)	2022	90
	2023	90
	2024	90
PT Charoen Pokphand Indonesia Tbk (CPIN)	2022	90
	2023	90

	2024	90
PT Malindo Feedmill Tbk (MAIN)	2022	90
	2023	70
	2024	80
PT Indah Kiat Pulp & Paper Tbk (INKP)	2022	80
	2023	80
	2024	90
PT Pabrik Kertas Tjiwi Kimia Tbk (TKIM)	2022	100
	2023	100
	2024	100
PT Astra Otoparts Tbk (AUTO)	2022	90
	2023	90
	2024	100
PT Surya Esa Perkasa Tbk (ESSA)	2022	90
	2023	70
	2024	90
PT Gajah Tunggal Tbk (GJTL)	2022	70
	2023	50
	2024	50
PT Indo-Rama Synthetics Tbk (INDR)	2022	80
	2023	80
	2024	100
PT Keramika Indonesia Assosiasi Tbk (KIAS)	2022	70
	2023	60
	2024	50
PT FKS Food Sejahtera Tbk (AISA)	2022	60
	2023	60
	2024	50
PT Lautan Luas Tbk (LTLS)	2022	70
	2023	50
	2024	100
PT Indofood CBP Sukses Makmur Tbk (ICBP)	2022	80
	2023	80
	2024	80
PT Indofood Sukses Makmur Tbk (INDF)	2022	80
	2023	80
	2024	90
PT Ultrajaya Milk Industry and Trading Company Tbk (ULTJ)	2022	80
	2023	100
	2024	100

PT Gudang Garam Tbk (GGRM)	2022	40
	2023	70
	2024	60
PT HM Sampoerna Tbk (HMSP)	2022	80
	2023	90
	2024	90
PT Kalbe Farma Tbk (KLBF)	2022	80
	2023	80
	2024	90
PT Solusi Bangun Indonesia Tbk (SMCB)	2022	60
	2023	80
	2024	80
PT Semen Baturaja (Persero) Tbk (SMBR)	2022	100
	2023	90
	2024	90
PT Indo Aluminium Industry Tbk (INAI)	2022	90
	2023	90
	2024	90
Gunawan Dianjaya Steel Tbk (GDST)	2022	60
	2023	60
	2024	60
PT Sreeya Sewu Indonesia Tbk (SIPD)	2022	60
	2023	60
	2024	60

Data source : processed by researchers

PROPER Analysis Data for Manufacturing Companies

Company Name	Year	PROPER Rating
PT Indocement Tunggal Prakarsa Tbk (INTP)	2022	4
	2023	4
	2024	5
PT Semen Indonesia (Persero) Tbk (SMGR)	2022	5
	2023	5
	2024	5
Campina Ice Cream Industry Tbk (CAMP)	2022	3
	2023	3
	2024	3
PT Surya Toto Indonesia Tbk (TOTO)	2022	3
	2023	3
	2024	3

Unilever Indonesia Tbk (UNVR)	2022	3
	2023	3
	2024	3
PT Barito Pacific Tbk (BRPT)	2022	4
	2023	5
	2024	4
PT Japfa Comfeed Indonesia Tbk (JPFA)	2022	3
	2023	3
	2024	3
PT Unggul Indah Cahaya Tbk (UNIC)	2022	3
	2023	3
	2024	3
PT Charoen Pokphand Indonesia Tbk (CPIN)	2022	3
	2023	3
	2024	3
PT Malindo Feedmill Tbk (MAIN)	2022	3
	2023	3
	2024	3
PT Indah Kiat Pulp & Paper Tbk (INKP)	2022	3
	2023	3
	2024	3
PT Pabrik Kertas Tjiwi Kimia Tbk (TKIM)	2022	3
	2023	3
	2024	3
PT Astra Otoparts Tbk (AUTO)	2022	3
	2023	3
	2024	3
PT Surya Esa Perkasa Tbk (ESSA)	2022	4
	2023	4
	2024	3
PT Gajah Tunggal Tbk (GJTL)	2022	3
	2023	3
	2024	3
PT Indo-Rama Synthetics Tbk (INDR)	2022	3
	2023	3
	2024	3
PT Keramika Indonesia Assosiasi Tbk (KIAS)	2022	3
	2023	3
	2024	3
PT FKS Food Sejahtera Tbk (AISA)	2022	3

	2023	3
	2024	3
PT Lautan Luas Tbk (LTLS)	2022	3
	2023	3
	2024	3
PT Indofood CBP Sukses Makmur Tbk (ICBP)	2022	3
	2023	4
	2024	4
PT Indofood Sukses Makmur Tbk (INDF)	2022	3
	2023	3
	2024	4
PT Ultrajaya Milk Industry and Trading Company Tbk (ULTJ)	2022	3
	2023	3
	2024	3
PT Gudang Garam Tbk (GGRM)	2022	3
	2023	3
	2024	3
PT HM Sampoerna Tbk (HMSP)	2022	4
	2023	4
	2024	4
PT Kalbe Farma Tbk (KLBF)	2022	4
	2023	5
	2024	4
PT Solusi Bangun Indonesia Tbk (SMCB)	2022	5
	2023	4
	2024	5
PT Semen Baturaja (Persero) Tbk (SMBR)	2022	3
	2023	4
	2024	4
PT Indo Aluminium Industry Tbk (INAI)	2022	3
	2023	3
	2024	3
Gunawan Dianjaya Steel Tbk (GDST)	2022	3
	2023	3
	2024	3
PT Sreeya Sewu Indonesia Tbk (SIPD)	2022	3
	2023	3
	2024	3

Data source : processed by researchers

Manufacturing Company ROA Analysis Data

CODE	2022	2023	2024
INTP	7,10	7,00	6,70
SMGR	2,85	2,65	0,93
CAMP	11,28	11,70	8,64
TOTO	9,48	7,27	9,12
UNVR	28,70	27,50	20,60
BRTP	0,35	0,98	1,17
JPFA	4,60	2,80	9,30
UNIC	11,39	6,38	6,01
CPIN	0,07	0,06	0,09
MAIN	0,46	1,14	9,70
INKP	8,90	4,10	3,60
TKIM	13,10	4,80	7,70
AUTO	8,00	10,30	10,40
ESSA	26,56	9,39	8,72
GJTL	-1,00	6,15	5,77
INDR	4,90	-5,00	-2,40
KIAS	0,61	-3,50	-2,55
AISA	-3,14	1,02	3,54
LTLS	5,27	2,86	3,54
ICBP	4,90	7,20	7,20
INDF	5,10	6,30	6,70
ULTJ	13,09	15,77	13,64
GGRM	3,10	5,80	1,20
HMSP	11,50	13,60	12,20
KLBF	12,70	10,20	11,00
SMCB	0,04	0,04	0,04
SMBR	1,50	2,50	2,60
INAI	-7,33	-3,92	-7,95
GDST	22,99	9,56	3,80
SIPD	-3,61	-0,28	0,06

Data source : processed by researchers

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