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Green Accounting Impact on Financial Performance of Indonesian Food and Beverage Firms Listed on IDX 2020–2023

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ABSTRACT

This study investigates the impact of green accounting on the financial performance of food and beverage manufacturing firms listed on the Indonesia Stock Exchange (IDX) during the period 2020–2023. Increasing environmental challenges and regulatory pressures have encouraged companies to incorporate environmental costs into their financial reporting systems; however, the adoption of green accounting in Indonesia remains relatively limited. This study employs a quantitative approach using panel data regression analysis. The sample consists of 11 firms selected through purposive sampling, resulting in 44 firm-year observations. Financial performance is proxied by Return on Assets (ROA), while green accounting is measured using the environmental cost ratio, defined as the proportion of corporate social responsibility (CSR) environmental expenditures to earnings after tax. The empirical results reveal that green accounting has a statistically significant effect on financial performance. Firms that allocate and manage environmental costs more efficiently tend to demonstrate higher profitability levels. This finding suggests that integrating environmental considerations into financial decision-making not only enhances operational efficiency but also strengthens corporate reputation and investor confidence. Moreover, the results support legitimacy theory, indicating that companies engaging in environmental responsibility are more likely to gain stakeholder trust, which contributes to improved financial outcomes. Despite its significance, the explanatory power of green accounting remains moderate, implying that other factors also influence financial performance. This study contributes to the literature by providing empirical evidence from an emerging market context and highlights the strategic importance of green accounting in achieving sustainable financial performance. The findings also offer practical implications for managers and policymakers to promote broader adoption of environmentally responsible accounting practices.

1. Introduction

Globalization has led to more sophisticated and contemporary technologies, which has intensified industry competition. Because of the competition, companies must continue to improve their performance. This is due to the fact that investors prioritize company performance while assessing a company to make an informed judgment on fund allocation (Siti Nuridah et al., 2023). In the study (Kurniawan, 2021) said that financial performance is the basis for assessing the financial condition of the company, because the financial statements provide a snapshot of the company's financial status during a specific time frame.

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According to CNBC Indonesia (Susi Setiawati, 2024) in 2024, PT Panca Mitra Multiperdana Tbk (PMMP). As of September 30, 2023, the company's net profit fell 44.60% to $4.75 million, down from $8.57 million in the same period the previous year. As of September 30, 2023, the company reported a 7.38% growth in sales to US$150.87 million, up from US$140.49 million during the same time the previous year. Unfortunately, the increase in cost of goods sold was not balanced with the increase in sales. As of September 30, 2023, the company's margin fell to 16.39% from 21.91% in the same period the previous year.

And five issuers in the consumer sector have not been able to support their net profit. Despite the fact that sales have increased. Specifically, PT Indofood CBP Sukses Makmur Tbk (ICBP) and PT Indofood Sukses Makmur Tbk (INDF) experienced a 38.21% and 30.76% decrease in net profit, respectively, in comparison to the same period last year. This decrease in net profit was influenced by deflation due to weakening purchasing power. In addition, a significant increase in financial burdens also contributed to the decrease in net profit (Susi Setiawati, 2024).

A significant increase in financial burdens is one of the burdens in dealing with environmental problems. According to Liputan 6, operational costs increase along with the need to manage waste, pay environmental fines, and adapt production processes to comply with government regulations. As a result, many companies experience sales growth but a decrease in net profit (H, 2025).

According to the PROPER report (Sekretariat PROPER Kementrian Lingkungan Hidup Kehutanan, 2021) from the Ministry of Environment and Forestry (KLHK) in 2022 as stated in the SK.1299/MENLHK/SETJEN/KUM.1/12/2022 about results of the PROPER assessment 2021-2022, a limited number of companies within the food and beverage sub-sector attained a "green" rating, while most were ranked “blue” or even “red”, indicating that compliance with environmental standards is still low.

The food companies in Indonesia contribute to a high burden of water pollution due to suboptimal liquid waste processing systems. In addition to liquid waste that pollutes water sources, there are greenhouse gas emissions from the energy combustion process, as well as solid waste from leftover raw materials and packaging.

In light of the increasingly pressing environmental issues that are arising, it is imperative for companies to implement Green Accounting. Green Accounting is a methodology designed to prevent, reduce, and avoid environmental impacts by including environmental costs in financial statements, which are then used for corporate decision making (Dianty Astari & Gita Nurrahim, 2022). By spending money on environmental management, companies can anticipate greater expenses in the future due to community demands and environmental problems (Valeska, 2024) and is also supported by research by (Indrayani et al., 2024) partially, that green accounting has an influence on financial performance.

Reality, according to Katadata Corporate Sustainability Index (KCSI) which calculated the index on 18 F&B companies that reported their sustainable finances to the Financial Services Authority (OJK). In this instance, it demonstrates that a significant number of companies in the food and beverage sector have not implemented or utilized green accounting, specifically environmental costs. Out of 46 companies, only 18 have disclosed green accounting, a percentage that is still less than 50% (Nurhayati, 2023).

The aforementioned implies that the majority of Indonesian food and beverage manufacturing companies do not employ green accounting. Consequently, the decrease in profit resulting from the increase in expenses is not attributable to the implementation of environmental costs. This is also corroborated by the research conducted by Maryanti and

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Hariyono in 2020 (Maryanti & Hariyono, 2020) which states that the implementation of Green Accounting has no effect on EPS and ROA.

The researcher is interested in using the topic implementation of Green Accounting on Financial Performance in Indonesia's Food and Beverage Manufacturing Sector (Listed on IDX from 2020 to 2023) because of the phenomenon and the divergent viewpoints of earlier researchers.

2. Literature Review

2.1 Financial Performance

An review of a company's financial performance shows how well it has adhered to financial regulations. Financial performance also comes from the evaluation of completed projects, comparing them with decisions that have been made simultaneously, and measurements taken over time (Hutabarat, 2021).

According to Kasmir, 2018 financial performance indicators can be measured using financial ratios:

1) The liquidity ratio assesses the company's capacity to fulfill its immediate obligations.
2) The activity ratio is a metric used to assess how well a business uses its resources.
3) A ratio called the solvency ratio is used to assess how much of a company's assets are financed by debt.
4) The ability of the business to turn a profit is evaluated using the profitability ratio. However, the profitability measure that will be employed in this study, Return on Asset (ROA), demonstrates the company's capacity to make money after taxes by utilizing all of its assets using the formula:

$$ROA = \frac{Earning\ aftar\ tax}{Total\ assets}$$

2.2 Green Accounting

Andreas Lako stated in his book Green Accounting (2018:99) that green accounting is as follows: "A process of recognition, measurement of value, recording, summarizing, reporting, and disclosure in an integrated manner of financial, social, and Environmental items, transactions, or events in the accounting process are utilized to provide comprehensive, integrated, and pertinent financial, social, and environmental accounting information that aids users in making both economic and non-economic decisions and management (Lako, 2018).

Green Accounting is a process of prevention, reduce, and avoidance of environmental impacts by including environmental costs in financial reports used for decision making for companies (Dianty & Nurrahim, 2022). Environmental cost formula:

$$Environmental\ cost = \frac{CSR\ activity\ cost}{Earning\ aftar\ tax}$$

3. Research Methods

3.1 Research Design

This study employs a quantitative research approach based on the positivist paradigm. The goal is to use quantifiable factors and statistical analysis to experimentally investigate how green accounting affects financial performance. Using cross-sectional and time-series data from food and beverage manufacturing companies listed on the Indonesia Stock Exchange (IDX) between 2020 and 2023, the study employs panel data analysis.

3.2 Population and Sample

46 food and beverage manufacturing companies that were listed on the Indonesia Stock Exchange (IDX) during the observation period comprise the study's population. Purposive sampling is the method used, and it meets the following requirements:

1. Companies consistently listed on the IDX during 2020–2023.
2. Companies that publish complete financial statements.
3. Companies that disclose environmental costs in their financial reports.

The population data are presented in Table 1.

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Table 1

No	Code	Name of Industries
1	ADES	Akasha Wira International Tbk
2	AISA	FKS Food Sejahtera Tbk
3	ALTO	Tri Banyan Tirta Tbk
4	BEER	Jobubu Jarum Minahasa Tbk
5	BOBA	Formosa Ingredient Factory Tbk
6	BTEK	Bumi Teknokultura Unggul Tbk
7	BUAH	Segar Kumala Indonesia Tbk
8	BUDI	Budi Starch & Sweetener Tbk
9	CAMP	Campina Ice Cream Industry Tbk
10	CEKA	Wilmar Cahaya Indonesia Tbk
11	CLEO	Sariguna Primatirta Tbk
12	CMRY	Cisarua Mountain Dairy Tbk
13	COCO	Wahana Interfood Nusantara Tbk
14	DLTA	Delta Djakarta Tbk
15	DMND	Diamond Food Indonesia Tbk
16	ENZO	Morenzo Abadi Perkasa Tbk
17	FOOD	Sentra Food Indonesia Tbk
18	GOOD	Garudafood Putra Putri Jaya Tbk
19	GRPM	Graha Prima Mentari Tbk
20	HOKI	Buyung Poetra Sembada Tbk
21	IBOS	Indo Boga Sukses Tbk
22	ICBP	Indofood CBP Sukses Makmur Tbk
23	IKAN	Era Mandiri Cemerlang Tbk
24	INDF	Indofood Sukses Makmur Tbk
25	KEJU	Mulia Boga Raya Tbk
26	MAXI	Maxindo Karya Anugerah Tbk
27	MGNA	Magna Investama Mandiri Tbk
28	MLBI	Multi Bintang Indonesia Tbk
29	MYOR	Mayora Indah Tbk
30	NAYZ	Hassana Boga Sejahtera Tbk
31	PCAR	Prima Cakrawala Abadi Tbk

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32	PMMP	Panca Mitra Multiperdan a Tbk
33	PSDN	Prasidha Aneka Niaga Tbk
34	PSGO	Palma Serasih Tbk
35	ROTI	Nippon Indosari Corpindo Tbk
36	SKBM	Sekar Bumi Tbk
37	SKLT	Sekar Laut Tbk
38	SOUL	Mitra Tirta Buana Tbk
39	STRK	Lovina Beach Brewery Tbk
40	STTP	Siantar Top Tbk
41	TAYS	Jaya Swarasa Agung Tbk
42	TBLA	Tunas Baru Lampung Tbk
43	TGUK	Platinum Wahab Nusantara Tbk
44	TRGU	Cerestar Indonesia Tbk
45	ULTJ	Ultra Jaya Milk Industry & Trading Company Tbk
46	WINE	Hatten Bali Tbk

IDX List of Food and Beverage Manufacturing Companies

3.3 Sample Selection

Based on the predefined criteria, the final sample consists of 11 companies, resulting in 44 firm-year observations over four years.

Table 2

Procedure for Sample Selection

No	Criteria for Sample Selection	Number
1	Food and beverage manufacturing sector registered on the Indonesia Stock Exchange (IDX) from 2020 to 2023	46
2	Food and beverage manufacturing industry which financial reports are incomplete	(14)
3	Food and beverage manufacturing companies on the Indonesia Stock Exchange (IDX) that fail to disclose their environmental expenditures	(21)
	Total of Sample	11*4 years (44)

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3.4 Data Types and Sources

This research utilizes secondary data acquired from:

- Annual reports and financial statements of companies listed on the IDX
- Sustainability reports (if available)
- Authorized publications from the Indonesia Stock Exchange

The data are collected through documentation techniques and analyzed quantitatively.

3.5 Variable Measurement and Operationalization

This study encompasses one independent variable and one dependent variable:

- Independent Variable (X): Green Accounting
- Dependent Variable (Y): Financial Performance

Table 3 delineates the operationalization of variables.

Table 3

Operational Variables of Research

Operational Variable	Concept	Indicator	Measurement	Scale
Green Accounting (X)	Green Accounting is a process of preventing, reducing and avoiding environmental impacts by including environmental costs in reports used for decision making by the company. (Dianty & Nurrahim, 2022)	Environmental Cost	$= \frac{CSR\ activity\ cost}{Earning\ aftar\ tax}$	Ratio
Financial Performance (Y)	Financial Performance is is the basis for assessing the company's financial condition, because it provides a picture of the company's financial condition during a certain time period (Kurniawan, 2021)	ROA	$= \frac{\boldsymbol{Earning\ aftar\ tax}}{\boldsymbol{Total\ assets}}$	Ratio

3.6 Measurement of Variables

Return on Assets (ROA) assesses financial performance, while the environmental cost ratio evaluates green accounting. The formulas used in this study are:

- Environmental Cost Ratio = CSR Activity Cost / Earnings After Tax
- Return on Assets (ROA) = Earnings After Tax / Total Assets

3.7 Data Analysis Technique

This research employs descriptive statistics and inferential statistical analysis through panel data regression. The analytical steps include:

1. Descriptive statistical analysis
2. Classical assumption tests
3. Regression analysis
4. Hypothesis testing

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The regression model employed in this investigation is as follows:

$$Y = \alpha + \beta X + \varepsilon$$

Where:

- Y= Financial Performance (ROA)
- X= Green Accounting
- α= Constant
- β= Regression coefficient
- ε= Error term

3.8 Classical Assumption Tests

A variety of conventional assumption tests are performed to verify the integrity of the regression model:

1. Normality Test
   Used to assess the normality of the residual data.
2. Autocorrelation Test
   Carried out utilizing the runs test to ascertain if the residuals of the regression model exhibit correlation.

The evaluations validate that the regression model meets the Best Linear Unbiased Estimator (BLUE) criterion.

3.9 Hypothesis Testing

The t-test (partial test) is employed in hypothesis testing to ascertain whether the independent variable significantly influences the dependent variable. The subsequent criteria for decision-making are as follows:

- If t-statistic > t-table and p-value < 0.05, then the hypothesis is accepted.
- If t-statistic ≤ t-table and p-value ≥ 0.05, then the hypothesis is rejected.

The hypothesis in this study is formulated as:

- H_0: Green accounting does not influence financial performance
- H_1: Green accounting substantially influences financial performance

4. Result and Discussion

4.1 Green Accounting

Environmental costs, namely the ratio of CSR activity costs to net profit after taxes, are used in this study to quantify green accounting. The subsequent table presents an overview of environmental cost data for food and beverage manufacturing companies listed on the Indonesia Stock Exchange from 2020 to 2023.

Table 4

Variable of Green Accounting in Industry

No	Code of Emiten	Years	Environmental Cost	Mean
1	BUDI	2020	0.0417	**0.0604**
		2021	0.0371	
		2022	0.0451	
		2023	0.1178	
2	CAMP	2020	0.0058	**0.0023**
		2021	0.0022	
		2022	0.0009	
		2023	0.0004	
3	CEKA	2020	0.0009	**0.0018**
		2021	0.0018	
		2022	0.0012	
		2023	0.0035	
4	CLEO	2020	0.0060	
		2021	0.0038	**0.0041**

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		2022	0.0039	
		2023	0.0029	
5	DLTA	2020	0.0018	**0.0015**
		2021	0.0013	
		2022	0.0012	
		2023	0.0015	
6	FOOD	2020	1.4020	**4.0384**
		2021	3.5414	
		2022	9.7091	
		2023	1.5012	
7	PSDN	2020	0.0025	**0.0026**
		2021	0.0030	
		2022	0.0042	
		2023	0.0007	
8	ROTI	2020	0.0027	**0.0014**
		2021	0.0013	
		2022	0.0007	
		2023	0.0007	
9	SKLT	2020	0.0073	**0.0050**
		2021	0.0047	
		2022	0.0040	
		2023	0.0038	
10	TBLA	2020	0.0056	**0.0158**
		2021	0.0051	
		2022	0.0037	
		2023	0.0490	
11	ULTJ	2020	0.0075	**0.0026**
		2021	0.0009	
		2022	0.0013	
		2023	**0.0006**	

Source: Data processing (2025)

The table above shows the development of environmental costs in eleven food and beverage manufacturing firms listed on the Indonesia Stock Exchange from 2020 to 2023. Among the 11 companies sampled in the study, the highest environmental costs were found in PT. Sentra Food Indonesia Tbk (FOOD) with an average of 4.0384 times, while the lowest environmental costs were found in PT. Nippon Indosari Corpindo Tbk (ROTI) with an average of 0.0014 times. PT. Sentra Food Indonesia Tbk's (FOOD) environmental costs were highest in 2022, reaching 9,709 times. Meanwhile, other companies' environmental costs did not even reach 0.2 times during the 2020-2023 periode.

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Table 5

Descriptive Statistic of Green Accounting

Years	N	Mean	Std. Deviation	Minimum	Maximum
2020	11	.1349	.42040	.0009	**1.4020**
2021	11	.3275	1.06598	.0009	**3.5414**
2022	11	.8887	2.92544	.0007	**9.7091**
2023	11	.1529	.44862	.0004	**1.5012**
Total	**44**	**.3760**	**1.56137**	**.0004**	**9.7091**

Source: Data processing (2025)

In the table above, the average of implementation of green accounting using the environmental cost indicator in the 2020-2023 period is 0.3760 or 37.6%, which means that the food and beverage manufacturing industries have spent 37.6% on CSR activity costs from the Company's total net profit. If you look at the trend, there was indeed an increase in 2020-2022, but there was a decrease in the following year. There are many factors to this possibility, it could be that there was a decrease in environmental costs because it was deliberately reduced or it could be the result of efficiency due to the consistent implementation of green accounting. And it is undeniable that there is the use of sophisticated technology that can make this efficiency happen even at the beginning of the implementation of green accounting.

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4.2 Financial Performance

Financial performance in this study is measured using Return on Assets (ROA), the ratio of net profit to total assets. The following table presents Return on Assets data for food and beverage manufacturing companies enumerated on the Indonesia Stock Exchange for the timeframe 2020–2023.

Table 6

Variable of Financial Performance in Industry

No	Code of Emiten	Years	Financial Performance	Mean
1	BUDI	2020	2.2644	**3.7590**
		2021	3.0644	
		2022	5.8815	
		2023	3.8256	
2	CAMP	2020	4.4862	**9.4493**
		2021	10.3245	
		2022	11.2821	
		2023	11.7042	
3	CEKA	2020	11.6050	**12.5937**
		2021	11.0209	
		2022	12.8444	
		2023	14.9044	
4	CLEO	2020	10.1280	**12.0545**
		2021	13.4041	

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		2022	11.3649	
		2023	13.3210	
5	DLTA	2020	10.8376	**14.9365**
		2021	14.7849	
		2022	17.6001	
		2023	16.5235	
6	FOOD	2020	1.3107	**0.7650**
		2021	0.5090	
		2022	0.2232	
		2023	1.0172	
7	PSDN	2020	6.8546	**29.1337**
		2021	11.6619	
		2022	3.6613	
		2023	94.3569	
8	ROTI	2020	3.7872	**7.3542**
		2021	6.7125	
		2022	10.4652	
		2023	8.4519	
9	SKLT	2020	5.4945	**7.0835**
		2021	9.5064	
		2022	7.2453	
		2023	6.0877	
10	TBLA	2020	3.5031	**2.7203**
		2021	3.7560	
		2022	3.3854	
		2023	0.2365	
11	ULTJ	2020	14.5851	**15.1693**
		2021	17.2380	
		2022	13.0889	
		2023	**15.7651**	

Source: Data processing (2025)

The financial performance of eleven food and beverage manufacturing firms listed on the Indonesia Stock Exchange from 2020 to 2023 is illustrated in the chart above. Among the 11 companies sampled in the study, the highest financial performance was found in PT. Prasidha Aneka Niaga Tbk (PSDN) with an average of 29.1337 percent. Conversely, the lowest financial performance was found in PT. Sentra Food Indonesia Tbk (FOOD) with an average of 0.7650 percent. The highest return on assets was achieved by PT. Prasidha Aneka Niaga Tbk in 2023, reaching 94.36%. Conversely, the lowest return on assets was achieved by PT. Sentra Food Indonesia Tbk in 2022, reaching only 0.22%.

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Table 7

Descriptive Statistic of Financial Performance

Years	N	Mean	Std. Deviation	Minimum	Maximum
2020	11	6.8051	4.34494	1.3107	**14.5851**
2021	11	9.2712	5.22645	.5090	**17.2380**
2022	11	8.8220	5.17611	.2232	**17.6001**
2023	11	16.9267	26.33236	.2365	**94.3569**
Total		**44**	**10.4563**	**13.90650**	**.2232**

Source: Data processing (2025)

In the table data above, the financial performance results also show the same trend as the previous table 2, namely an increase until 2022, then a decrease. This indicates that financial performance will also be influenced by the adoption of green accounting. From 2020 to 2023, the food and beverage sectors listed on the IDX achieved a profit of 10.46% of total assets.

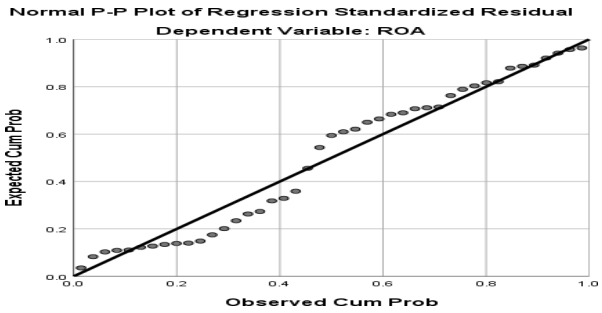

Fig. 1
Normal Probability Plot

4.3 The Influence of Green Accounting toward Financial Performance

A crucial prerequisite for determining the significance of regression coefficients is the assumption of normality. The t-test statistic in regression analysis, being derived from a normal distribution, renders the test's conclusion questionable if the regression model lacks normality. This study assessed the normality of the regression utilizing the one-sample Kolmogorov-Smirnov test.

When the data distribution remains near the diagonal line, the regression model that is produced is normally distributed. Upon the exclusion of a single outlier from the regression model, the normality test of the final model produced a probability value of 0.200, over the threshold of 0.05, so confirming that the model is normally distributed.

Table 8

Autocorrelation Test

Test Value[a]	1.14699
Cases < Test Value	21
Cases >= Test Value	22
Total Cases	43
Number of Runs	17
Z	-1.541
Asymp. Sig. (2-tailed)	.123

a. Median

Source: Data processing (2025)

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This test, using a runs test, yielded a significance value of 0.123. Because the runs test significance value is greater than 0.05, that are no signs of autocorrelation in the regression model. Since all three regression assumptions have been tested and all meet the classical assumptions, it can be concluded that the regression model estimation results meet the BLUE (best linear unbiased estimation) criteria.

Table 9

Hyphothesis test

Standardized Coefficient	t count	Sig.	ttabel (db:41)	Ho
-0,385	**-2,675**	**0,011**	**2,020**	**Ditolak**

Sourcer: Data processing (2025)

The comparison of tcount with ttable reveals that tcount is less than negative ttable (-2.675 < 2.020), and the significance value is below 0.05. Consequently, at a 5% error rate, Ho is rejected and Ha is accepted. Consequently, it can be inferred that Green Accounting significantly influences the financial performance of food and beverage manufacturing firms listed on the Indonesia Stock Exchange. This study's conclusions offer empirical evidence that firms with reduced environmental expenses generally exhibit superior financial performance.

The reason this hypothesis is accepted is because companies with strong financial performance are generally more open in communicating their environmental activities. This information is usually included in sustainability reports, which detail the environmental costs incurred as part of corporate social responsibility. This study also shows that the quality of environmental disclosure has a direct relationship with improved financial performance.

Table 10

The Influence of Green Accounting to Financial Perfomance

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	**.385[a]**	**.149**	**.128**	**4.80717**	**1.514**

a. Predictors: (Constant), Green Accounting
b. Dependent Variable: Financial Performance
Source: Data Processing (2025)

Table 4 indicates that the t count exceeds the t table, hence leading to the acceptance of H0, which signifies an impact of green accounting on financial performance. While in table 5, the influence of green accounting on financial performance is listed at 14.9% that the implementation of green accounting with environmental cost indicators affects financial performance, meaning that with the industry implementing environmental costs in its company, it can improve company performance.

With the industry paying attention to the environment, even though spend a lot of money, it provides added value to the company's performance such as the company's image or

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brand image. This is able-to-be a consideration in making business decisions from several investors who care about the environment, especially for foreign investors in developed countries that have implemented green accounting regulations as an obligation for industry or companies. In addition to investors, consumers are now also starting to be aware of the producers of the products they consume, so they prefer producers who have implemented environmental concerns.

In addition, the above is also supported by previous research that the advantage of implementing environmental costs is that industry or companies can anticipate greater expenses in the future due to community demands and environmental problems (Ningsih & Rachmawati, 2017) and reduce environmental impacts and costs (Angelina & Nursasi, 2021).

The adoption of green accounting not only facilitates improve the environment but also controls costs, uses environmentally friendly technology, and develops production processes that produce less waste and pollution (cleaner) according to (Setiawan, 2024).

Green Accounting in food and beverage companies is an accounting approach that integrates environmental aspects into the company's financial system. The objective is to identify, quantify, and disclose the environmental costs and effects resulting derived by the company's operational activity.

While the remaining 85.1% is influenced by other factors outside the green accounting variable. This is acceptable given that the IDX lists only eleven food and beverage production enterprises for the years 2020–2023 timeframe and have consistently implemented green accounting through environmental costs each year. There are still less than 50% of the total food and beverage manufacturing industry in Indonesia that implements green accounting. This is also supported by government regulations that are not yet adequate for all industries. Currently, the regulation regarding green accounting is for private companies which is regulated in PP no. 47. Year 2012 (2012) which states that the company bears social and environmental responsibility while operating exclusively in sectors associated with natural resources.

Another factor contributing to the relatively small contribution is the lack of binding and detailed regulations or reporting standards. Lack of stakeholder pressure and low consumer awareness of environmental issues also contribute to companies not fully integrating environmental aspects as a strategic component of improving financial performance.

Although the regulation does not support green accounting, but seen from the perspective of other regulations such as tax regulations, namely the government provides tax incentives and government subsidies, one of which can be by reducing the tax burden if the industry or company implements environmentally friendly practices. This can also have an impact on the company's performance in terms of profit because it can reduce costs and increase cash flow. In addition, tax regulations PP no. 45 of 2019 (2019) concerning tax reductions for R&D activities, PP no. 9 of 2016 (2016) concerning the provision of fiscal incentives in certain fields including renewable energy, as well as the imposition of carbon taxes and carbon trading mechanisms.

Based on legitimacy theory, companies have a responsibility to conduct their activities in accordance with societal values, norms, and expectations to gain public recognition or legitimacy. When a company meets these social expectations, its image improves and positively impacts stakeholder trust. The only way companies achieve this legitimacy is through environmental disclosure.

5. Conclusion

5.1 Summary of Findings

This study looks at how green accounting affected the financial results of food and beverage manufacturing companies listed

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on the Indonesia Stock Exchange (IDX) between 2020 and 2023. Using panel data from 11 selected companies (44 firm-year observations), green accounting was proxied by the environmental cost ratio, while financial performance was measured using Return on Assets (ROA). The empirical results demonstrate that green accounting has a statistically significant effect on financial performance. Firms that manage environmental costs more efficiently tend to exhibit better financial outcomes, indicating that environmental responsibility is aligned with financial sustainability.

5.2 Theoretical Implications

This study advances the body of knowledge on accounting and sustainability, especially as it relates to emerging markets. The results corroborate the legitimacy theory, which holds that businesses that successfully manage and disclose environmental expenses are more likely to win over stakeholders and boost their bottom line. Additionally, this research strengthens the argument that green accounting is not merely a compliance tool but a strategic instrument that integrates environmental and financial objectives.

5.3 Practical Implications

From a managerial perspective, the results suggest that organizations ought to incorporate environmental cost management into their financial decision-making frameworks. The implementation of green accounting can enhance operational efficiency, strengthen corporate image, and attract environmentally conscious investors. The findings underscore the necessity for policymakers to implement more extensive and enforceable standards on environmental reporting to facilitate the broader implementation of sustainable accounting methods across diverse sectors.

5.4 Limitations of the Study

This study has several flaws that warrant attention. First, there are just 11 companies in the sample, which may limit how broadly the results can be applied. Second, the study focuses solely on the food and beverage manufacturing sector, which may not fully represent other industries with different environmental characteristics. Third, the explanatory power of the model is relatively low (14.9%), indicating that other variables not included in this study may also significantly influence financial performance.

5.5 Recommendations for Future Research

To improve generalizability, future studies are urged to increase sample size and incorporate a variety of sectors. Researchers may also consider incorporating additional variables such as corporate governance, firm size, leverage, ESG disclosure, or innovation to provide a more comprehensive understanding of financial performance determinants. Furthermore, qualitative or mixed-method approaches could be employed to explore in-depth insights into how companies implement green accounting practices and the challenges they face in different regulatory environments.

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