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### Green Accounting and Sustainable Corporate Performance: Environmental Performance as a Moderating Variable

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#### ABSTRACT

This study aims to investigate whether sustainable corporate performance is influenced by green accounting practice and analyze environmental performance position as a moderating variable in this relationship. Cross-sectional time-series analysis together with random effects regression model was deployed for data analysis. The findings indicate that green accounting, proxied by environmental costs, negatively affects sustainable corporate performance, where greater efficiency in environmental cost components for green accounting activities positively impacts sustainable corporate performance (ROE). However, not significant moderation effect of environmental performance observes in the relationship betwixt green accounting and sustainable corporate performance. Companies that increase environmental costs to enhance compliance and achieve higher PROPER ratings experience a decline in ROE. Theoretically, vision given from this study regarding the importance of environmental cost efficiency in green accounting practices to support sustainable corporate performance. Practically, it suggests that companies should integrate environmental aspects comprehensively into their business strategies and effectively implement sustainable practices to achieve optimal corporate performance. Compared to previous research, this research uses environmental performance as a moderating variable, which has not been previously explored in the relationship betwixt green accounting and sustainable corporate performance and this become novelty of this research.

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## 1. INTRODUCTION

The rapid growth of the manufacturing industry creates unavoidable environmental problems, such as global warming and issues arising from waste disposal (Amaranti et al., 2017). Environmental issues pose a challenge to the industrial world amidst increasing competition and dynamic changes in the business environment. This is particularly crucial for developing countries to generate better corporate performance (Al-Swidi and Saleh, 2021). Business actors today must pay attention to the increasingly scarce energy and natural resources to create added value in their products, rather than solely focusing on management and capital owners (Sangwan and Mittal, 2015). The issue of sustainability has become a challenge in today's business world, as well as in the manufacturing industry that contributes to global environmental change. In the midst of this dynamic, green accounting emerged as an important part of accounting science, which focuses on measuring, managing, reporting costs related to the corporation environmental activities. Currently, green accounting is not exclusive in the domain of financial accounting, but also in the dimension of management accounting, which involves strategic decision making related to environmental cost efficiency for long-term sustainability. This research will be focused on green accounting practices impact on sustainable enterprise performance which will be relevant in the realm of environmental accounting, which is a branch of sustainability accounting. According to Aniela (2012) in Selpiyanti and Fakhroni (2020), the accounting sciences that focuses on the environment is called green accounting.

Implementation of green accounting is one way to ensure that companies address the impact for environment from their operational activities. (Chasbiandani et al., 2019). Recognition for green accounting as a positive action for companies because it not only focuses on increasing profits but also considers environmental impacts (Khan and Gupta, 2023). Method that gauges, assesses, and discloses costs related to the company's environmental activities is defined as green accounting (Brooks and Schopohl, 2020). Additionally, corporation that can achieving good environmental performance can make them attain corporate ultimate goal of enhancing corporate performance as the industry becomes more environmentally conscious (Huang and Li, 2017). This research is based on legitimacy and stakeholder theory. Corporations need to assure their operations conform to applicable social norms and expectations to gain legitimacy from society is what legitimacy theory said regarding corporations. Corporation green accounting implementation, seen with exhibiting corporate commitment for environmental sustainability, can be seen as an organization's effort to maintain this legitimacy (Deegan, 2002). In addition, corporations also have a obligation to various stakeholders, including investors, governments, consumers and the general public, to manage the environmental effects from their business operations is what stakeholder theory emphasizes (Freeman, 2010). The implementation of green accounting is not only limited to supporting sustainability but also meeting the demands of stakeholders for transparency and accountability regarding environmental performance (Brooks and Schopohl, 2020). With the rising of stakeholders awareness of environmental issue, this increase their discussion and attention relating this issue, importance of corporate environmental performance increasing and in the future, this believed to influence corporate risk and cash flow (Sarumpaet et al., 2020).

Previous research examines the connection betwixt green accounting and firm performance, but most of previous research only focuses on the direct effect of implementing environmental costs without considering its efficiency. As is the case with research conducted by Chasbiandani et al., (2019) tells us that positive effect observed in relationship betwixt green accounting and company profitability in Indonesia, but does not examine how environmental cost efficiency

impacts this result. Also, research conducted by [Sulistiawati and Dirgantari \(2016\)](#) found that spending on green accounting had an impact on financial performance but efficiency was not discussed in detail. Other than that, previous studies only explored the direct relationship between green accounting and firm performance without observing at how environmental performance moderate the connection. This is also observed in the research of [Angelia and Suryaningsih \(2015\)](#), which in their study showed that environmental performance and CSR disclosure are positively related to financial performance but did not expose the interaction in the context of green accounting. Most of the research on green accounting is viewed from a financial accounting and disclosure perspective, while the management accounting approach (decision-making and cost efficiency) has received less attention. This is reinforced by research conducted by [Khan and Gupta \(2023\)](#) where they conducted a meta-analysis on green accounting but highlighted the need for more in-depth research on how green accounting influences corporate strategic decisions.

Although previous research has observed the effect of green accounting on corporate performance ([Dutta et al., 2019](#); [Sulistiawati and Dirgantari, 2016](#)), no research has yet used environmental performance to moderate the relationship. Compared to previous research, this research uses environmental performance as a moderating variable, which has not been previously explored in the relationship between green accounting and sustainable corporate performance and this become novelty of this research.

The research goal is to analyze the green accounting impact on sustainable corporate performance and examine moderation role of environmental performance variable in this relationship. This study is crucial to comprehending how much environmental issue should businesses worry and the extent to which companies take action to preserve the environment while maintaining corporate performance (sustainability). Also, the contribution expected from this research is to applied accounting through the integration of green accounting as a strategic tool for environmental cost efficiency and sustainability. This research attempts to highlight the importance of cost efficiency in improving corporate financial performance, utilize PROPER as an indicator of environmental performance, and provide practical guidance for accountants and regulators to improve transparency and accountability of environmental reporting to support sustainability and profitability.

## 2. METHODS

Quantitative approach with a causal research design employed in this study. To examine the effect of green accounting on sustainable corporate performance, with environmental performance as a moderating variable, causal research design is chosen in this research. The quantitative approach is used to measure the research variables numerically and perform statistical analysis to assess the hypotheses proposed. This research is similar with [Khan and Gupta, \(2023\)](#) that used quantitative analysis to explore the connection between sustainability and financial performance. Examination of environmental performance in this research are using PROPER, the same thing done by [Angelia and Suryaningsih \(2015\)](#) that measure environmental performance in his research using PROPER.

This research population consists of food and beverage manufacturing corporations indexed in the Indonesia Stock Exchange (IDX) in 2017-2021 period, totaling 24 companies. Food and beverage sector is chosen in this research based on its significant contribution to the Indonesian economy and its substantial potential environmental impact. Purposive sampling method used to select the research sample with criteria for corporation engaging in the instrument managed by Ministry of Environment called PROPER (Corporate Performance Rating Program in Environmental Management), totaling 12 companies. The use of these criteria aims to ensure

that the sample companies have undertaken environmental management efforts and have measurable environmental performance data.

Secondary data used in this research. Financial statements and annual reports of corporation released on the IDX website ([www.idx.co.id](http://www.idx.co.id)) and from the PROPER database are our source to collect research data. To obtain data related to the green accounting variable and sustainable corporate performance, this research used financial statement and corporate annual report, while the PROPER database is used to obtain data on the company's environmental performance ratings.

Green accounting become this research independent variable. Three indicators used to measure are: environmental costs, corporate social responsibility (CSR), and comprehensive donations/funds. Environmental costs include expenses incurred by companies for environmental management and conservation. CSR is measured by analysing corporation annual report disclosure for CSR activities. Comprehensive donations/funds encompass the company's contributions to environmental and social programs. Secondary data that taken from annual reports and corporate sustainability used for measurement (Dutta et al., 2019; Khan and Gupta, 2023).

Sustainable corporate performance become this research dependent variable. Return on Equity (ROE) measured this variable. ROE is chosen because it is a measurement of profitability that reflects the power of corporations to use the equity from owner to achieve net profit. Dividing net profit by total equity is done in order to calculate ROE. Measurement using financial data derived from the corporation financial statements (Qiu et al., 2016).

Environmental performance become this research moderating variable. PROPER rating used as measurement for this variable. Ministry of Environment conducted PROPER as a corporate performance assessment program in environmental management. The PROPER rating consists of five color categories: score 5 indicates by gold, score 4 indicates by green, score 3 indicates by blue, score 2 indicates by red, and score 1 indicates by black. Higher PROPER rating indicating better company's environmental performance. Data measurement uses data obtained from PROPER report data published by the government (Jan et al., 2021).

Descriptive statistical analysis and cross-sectional time series data regression analysis with a random effects model used as data analysis technique in this research. Cross-sectional time-series data is used in this research because it allows the analysis of variables in cross-firm (cross-sectional) and cross-time (time-series) dimensions, thus providing more in-depth results, and used random effects because random effects are more efficient than fixed effects when an assumption in inter-entity variation are random and uncorrelated with the independent variables and random effects consider differences among firms that are not observed and the connection with independent variables assumed to be uncorrelated. Before performing regression analysis, classical assumption tests are conducted, including test of normality, test of multicollinearity, and test of heteroscedasticity. The test of normality is conducted to ensure that research data are normally distributed. The test of multicollinearity is performed to detect the presence of high correlations among independent variables. The test of heteroscedasticity is conducted to examine is there any inequality in the variance of the residuals from first observation to another.

The test of normality is used to examine normality of the distribution of research data. Shapiro-Wilk test, Jarque-Bera test, and Kolmogorov-Smirnov test, and Shapiro-Wilk test are the test that usually used for testing data normality (Porter and Gujarati, 2009). Jarque-Bera method is chosen for test of normality in this research. To pass the test of normality, Jarque-Bera probability value need to be greater than 0.05 (Porter and Gujarati, 2009).

Detection of high correlation among independent variables in the regression model is the reason why test of multicollinearity conducted. Estimation of regression coefficients can be biased because of multicollinearity problem (Ghozali, 2018). Values of Variance Inflation Factor (VIF) or value for correlation among the independent variables can be used to test multicollinearity problem. For this research, multicollinearity test is conducted by observing the value for correlation amid moderating variable and independent variables.

The test of heteroscedasticity is employed to ascertain whether regression model has variance inequality of the residuals from one observation to another. Inefficient estimation of regression coefficient can be caused by heteroscedasticity problem (Porter and Gujarati, 2009). Conducting test of heteroscedasticity can be done with several test, such as White test, Breusch-Pagan test, or Glejser test. For this research, White test choose as instrument to perform test of heteroscedasticity. Chi-square probability value need to be higher than research alpha (0.05) in order to pass the heteroscedasticity test. (Porter and Gujarati, 2009).

Testing this research hypothesis are done with conduct cross-sectional time-series regression analysis together with random effects model. Combination of cross-sectional and time series data is called as cross-sectional time-series regression analysis (Porter and Gujarati, 2009). Consideration taken for any unobserved variations amid corporations that are random and not correlated with the independent variables and this result in this research choose random effects model. (Baltagi et al., 2014). to test the hypotheses, an evaluation of the coefficients of regression and the level of significance (p-value) from the regression analysis results is conducted. For accepting or rejecting the hypotheses, the criteria are shown as follows:

- If the p-value is less than the established level of significance ( $\alpha$ ), which is 0.05 or 5%, the hypothesis is accepted (Ghozali, 2018). This means there is a significant impact between independent variable and dependent variable.
- If the p-value is higher than the established level of significance ( $\alpha$ ), which is 0.05 or 5% (Ghozali, 2018), rejected the hypothesis. This means there is no significant effect of the independent variable on the dependent variable.

In addition to examining the significance level, to understand the direction and the degree of the impact caused by independent variables to dependent variables, the regression coefficients are also interpreted. If regression coefficient shows positive value, this indicates a positive effect between independent and dependent variables. If regression coefficient shows negative value, this indicates a negative effect between independent and dependent variables (Porter and Gujarati, 2009).

In this study, two hypotheses are tested:

- Hypothesis 1: Green accounting affects sustainable corporate performance.
- Hypothesis 2: Green accounting affects sustainable corporate performance with environmental performance as a moderating variable.

### 3. RESULTS AND DISCUSSION

#### 3.1. Classical Assumption Tests

##### 3.1.1. Test of Normality

The test of normality in this research was conducted using the Jarque-Bera method. According to the test of normality result in **Figure 1**, research data can be interpreted as normally distributed and pass the normality test since the Jarque-Bera probability value was greater than 0.05. The criterion for passing the normality test is a Jarque-Bera probability value  $> 0.05$  (Porter and Gujarati, 2009).

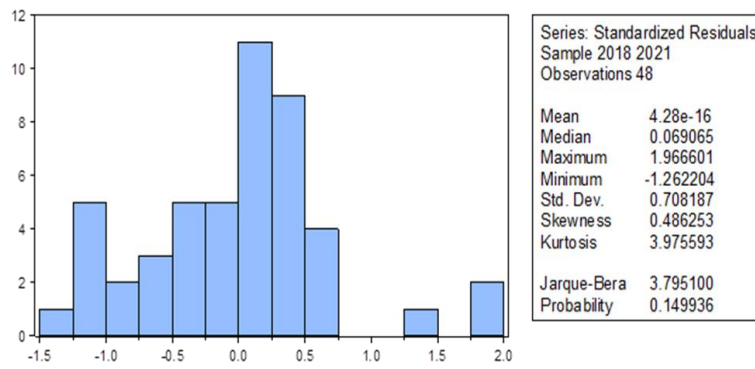


Figure 1. Normality Test

3.1.2. Test of Multicollinearity

In this study, the test of multicollinearity was performed by examining the correlation values among the moderating variable and the independent variables. Results in Table 1 of this test show that the correlation values are less than 0.90 (two-way), thus passing the multicollinearity test. The criterion for passing the multicollinearity test is a correlation value between moderating variables and independent variables are below 0.90 (Ghozali, 2018).

Table 1. Multicollinearity Test

|       | X_GAC    | M_KIN    |
|-------|----------|----------|
| X_GAC | 1.000000 | 0.075352 |
| M_KIN | 0.075352 | 1.000000 |

Source: SPSS Output

3.1.3. Test of Heteroscedasticity

Results from the test exhibit that the research alpha of 0.05 (5%) lower than research chi-square probability value. Therefore, the heteroscedasticity test is successfully passed by research regression model (see in Table 2). The criterion for passing the heteroscedasticity test is research alpha (0.05) lower than chi-square probability value (Porter and Gujarati, 2009).

Table 2. Heteroscedasticity Test

| Heteroscedasticity Test: White |             |                       |             |        |
|--------------------------------|-------------|-----------------------|-------------|--------|
| F-statistic                    | 2.318846    | Prob. F(5,54)         | 0.0558      |        |
| Obs*R-squared                  | 10.60541    | Prob. Chi-Square(5)   | 0.0598      |        |
| Scaled explained SS            | 6.746111    | Prob. Chi-Square(5)   | 0.2402      |        |
| Test Equation:                 |             |                       |             |        |
| Dependent Variable: RESID^2    |             |                       |             |        |
| Method: Least Squares          |             |                       |             |        |
| Date: 09/11/23 Time: 14:41     |             |                       |             |        |
| Sample: 1 60                   |             |                       |             |        |
| Included observations: 60      |             |                       |             |        |
| Variable                       | Coefficient | Std. Error            | t-Statistic | Prob.  |
| C                              | -5.528523   | 13.51347              | -0.409112   | 0.6841 |
| LOGMKIN^2                      | -8.084414   | 9.827180              | -0.822659   | 0.4143 |
| LOGMKIN*LOGYROE                | -1.127111   | 2.764737              | -0.407674   | 0.6851 |
| LOGMKIN                        | 23.78718    | 21.20909              | 1.121566    | 0.2670 |
| LOGYROE^2                      | 0.866989    | 0.361900              | 2.395659    | 0.0201 |
| LOGYROE                        | -4.511794   | 4.022149              | -1.121737   | 0.2689 |
| R-squared                      | 0.176757    | Mean dependent var    | 2.017143    |        |
| Adjusted R-squared             | 0.100531    | S.D. dependent var    | 2.415131    |        |
| S.E. of regression             | 2.290519    | Akaike info criterion | 4.580073    |        |
| Sum squared resid              | 283.3097    | Schwarz criterion     | 4.799507    |        |
| Log likelihood                 | -131.7022   | Hannan-Quinn criter.  | 4.671994    |        |
| F-statistic                    | 2.318846    | Durbin-Watson stat    | 1.116208    |        |
| Prob(F-statistic)              | 0.055767    |                       |             |        |

Source: SPSS Output



### 3.2. Hypothesis Testing

#### 3.2.1. Random effects model test

##### 3.2.1.1. The impact of green accounting on sustainable corporate performance

Green accounting affects the change in sustainable corporate performance variable (ROE) by 2.5%, with the following statistical equation:

$$Y = 22.83 - 0.681X_1.$$

Without the presence of green accounting, proxied by environmental/social responsibility funds, the average ROE is 22.83%. However, with an increase in green accounting costs by 1%, the ROE decreases by 0.681%.

**Table 3.** Random Effects Model Equation 1

Dependent Variable: Y\_ROE  
 Method: Panel EGLS (Cross-section random effects)  
 Date: 09/10/23 Time: 23:39  
 Sample: 2017 2021  
 Periods included: 5  
 Cross-sections included: 12  
 Total panel (balanced) observations: 60  
 Swamy and Arora estimator of component variances  
 White cross-section standard errors & covariance (d.f. corrected)

| Variable           | Coefficient | Std. Error         | t-Statistic | Prob.    |
|--------------------|-------------|--------------------|-------------|----------|
| C                  | 22.83432    | 5.715901           | 3.994877    | 0.0002   |
| X_GA               | -0.680807   | 0.134557           | -5.059640   | 0.0000   |
| R-squared          | 0.025475    | Mean dependent var |             | 5.719509 |
| Adjusted R-squared | 0.008673    | S.D. dependent var |             | 12.93889 |
| S.E. of regression | 12.88296    | Sum squared resid  |             | 9625.845 |
| F-statistic        | 1.516161    | Durbin-Watson stat |             | 1.285222 |
| Prob(F-statistic)  | 0.223171    |                    |             |          |

Source: SPSS Output

##### 3.2.1.2. Green accounting impact on sustainable corporate performance with environmental performance as a moderating variable

Environmental performance that measured by PROPER rating is introduced as the moderating variable in the model examining green accounting impact on sustainable corporate performance does not significantly moderate the influence betwixt green accounting and sustainable corporate performance (ROE). However, significant impact of changes in green accounting on sustainable corporate performance is observed. The following statistical equation is formed:

$$Y = 56.119 - 0.688x - 11.15m.x$$

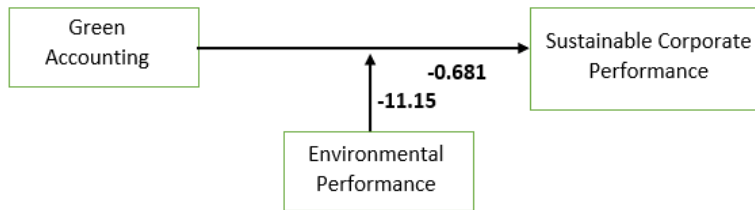
**Table 4.** Random Effects Model Equation 2

Dependent Variable: Y\_ROE  
 Method: Panel EGLS (Cross-section random effects)  
 Date: 09/11/23 Time: 00:27  
 Sample: 2017 2021  
 Periods included: 5  
 Cross-sections included: 12  
 Total panel (balanced) observations: 60  
 Swamy and Arora estimator of component variances  
 White cross-section standard errors & covariance (no d.f. correction)

| Variable            | Coefficient | Std. Error         | t-Statistic | Prob.    |
|---------------------|-------------|--------------------|-------------|----------|
| C                   | 56.11926    | 14.61789           | 3.839082    | 0.0003   |
| X_GA                | -0.687629   | 0.172026           | -3.997246   | 0.0002   |
| M_KL                | -11.14934   | 5.720312           | -1.949079   | 0.0562   |
| Weighted Statistics |             |                    |             |          |
| R-squared           | 0.072290    | Mean dependent var |             | 5.516533 |
| Adjusted R-squared  | 0.039739    | S.D. dependent var |             | 12.85720 |
| S.E. of regression  | 12.59914    | Sum squared resid  |             | 9048.087 |
| F-statistic         | 2.220815    | Durbin-Watson stat |             | 1.395354 |
| Prob(F-statistic)   | 0.117827    |                    |             |          |

Source: SPSS Output

Using the above statistical equation, the average ROE value in the food and beverage industry is projected to be 56.19%. The presence of the green accounting variable, with an increase of one unit or 1%, will reduce the ROE value by 0.688%. The presence of the PROPER moderating variable will reduce the ROE value by 11.15%. Therefore, in companies with a gold PROPER rating (coded as 5), the ROE decrease will be higher compared to companies with lower PROPER ratings.



**Figure 2.** Construction Diagram

### 3.3. Discussion

#### 3.3.1. Green accounting effect on sustainable corporate performance

The findings of this study indicate that sustainable corporate performance is negatively affected by green accounting, proxied using environmental costs. This means that the more efficient the environmental cost component for green accounting activities, the better its impact on Return on Equity (ROE), which is the measurement for sustainable corporate performance. This finding is consistent with previous research by [Chasbiandani et al. \(2019\)](#), [Dutta et al. \(2019\)](#), and [Sulistiawati and Dirgantari, \(2016\)](#), which stated that corporate performance is affected positively by green accounting practices.

The method in accounting that integrates environmental aspects into the company's financial reporting is defined as green accounting. Encouraging corporations to be more responsible to the effect for environment from their operational endeavor is the main objective of green accounting ([Lako, 2018](#)). Implementation of green accounting can help corporations to identify, measure, and disclose costs related to environmental management and gauge the effect to corporation financial performance ([Brooks and Schopohl, 2020](#)).

Poorly management for measurement in environmental costs can result in positive and negative impacts on corporation performance despite goal of green accounting is to promote sustainability and environmental accountability. Revelation of additional expenses related to harmful activities, such as waste management, environmental remediation, or investment in clean technology can be happened with measuring environmental costs ([Brooks and Schopohl, 2020](#)). Corporation profitability can be affected by these additional costs if corporation are not prepared to handle these costs.

Thorough planning needs to be done by corporation implementing green accounting in order to ensure that environmental costs do not adversely affect financial performance. Identification for area requiring improvement for environmental management need to be done to prioritize investments in those areas. Evaluation for effectiveness of existing environment program also need to be done so necessary adjustment can be conducted ([Amaranti et al., 2017](#)). Long-term benefits are provided if implementation of green accounting effective and efficient. Improvement in operational efficiency, reduce in environmental risks, and enhancement of corporate reputation among stakeholders can be achieved via well managed environmental cost ([Al-Swidi and Saleh, 2021](#)). Innovation can be driven in some aspect, such as developing more environmentally friendly products and processes, thus opening new market opportunities by practicing green accounting ([Sangwan and Mittal, 2015](#)).

Several challenges can be faced when implementing green accounting. Lacking in clear and consistent standards for measuring and reporting environmental costs become one of major



problem (Khan and Gupta, 2023). Complicating the comparability of environmental information can be happened because this problem led to variations in reporting practices between companies, complicating the comparability of environmental information. Furthermore, support from all levels of organization, including top management and employees also required to implement green accounting (Huang and Li, 2017).

Developing clear standards and guidelines for green accounting implementation can overcome these challenges and collaboration between companies, regulators, and other stakeholders is necessary to do that. Involving employees in sustainability initiatives and enhancing transparency and accountability in environmental reporting also need to do (Brooks and Schopohl, 2020). Result of this research, indicating that green accounting can impact sustainable corporate performance despite variation of the impact observed according to in which level of the effectiveness of environmental cost management by the company. Long-term benefit from green accounting can be achieved only if corporation pay attention to environmental cost efficiency and integrate environmental aspects into their overall business strategy. Promoting sustainability and improving overall corporate performance can be achieved by effectively using green accounting as a tool with proper management.

### **3.3.2. Green accounting impact on sustainable corporate performance with environmental performance as a moderating variable**

The research findings an indication that impact from relationship between green accounting on sustainable corporate performance does not moderate significantly by environmental performance. Companies that increase environmental costs to improve compliance and achieve higher PROPER ratings actually experience a decrease in Return on Equity (ROE). Previous research by Angelia and Suryaningsih, (2015) and Tahu (2019) are contrasted with this research result, which state that positive impact observed in connection betwixt environmental performance and corporate performance. Effort from corporation to manage their environmental impacts from their operational endeavor is what defined as environmental performance. Corporation's commitment to environmental sustainability and reducing its ecological footprint are reflected in good environmental performance (Burhany, 2011). Ministry of Environment used Corporate Environmental Performance Rating Program (PROPER) as an instrument to judge corporate environmental performance in Indonesia (Sulistiawati and Dirgantari, 2016).

This study's finding show that increased environmental costs incurred by companies to improve their PROPER ratings do not necessarily enhance sustainable corporate performance. Several factors contribute to this result. Despite cost has already incurred for green accounting, implementation of sustainable practices or environmental strategies may not have been effectively carried out by the company. (Huang and Li, 2017). Expected positive impact on corporate performance will not occurred as long as tangible actions to reduce environmental impact are not taken. Employee understanding and involvement in sustainability initiatives can also affected environmental performance effectiveness in moderating the connection between green accounting and corporate performance. Environmental performance may not have significant impact if the understanding of sustainability's importance is low or if employees are not actively involved in environmental programs (Supadi and Sudana, 2018). Connection amid green accounting and corporate performance can also impacted by external factors. Those factors include regulatory changes, market pressures, or economic conditions. If external conditions do not support or even hinder sustainability efforts, environmental performance may not be able to play the expected moderating role (Sangwan and Mittal, 2015).

Although this study's outcome shows that connection amid green accounting and sustainable corporate performance does not significantly moderate by environmental performance, it does not mean that companies can ignore environmental aspects in their business strategy. Environmental performance improvement and integration of environmental aspect into business decision making still need to do by corporations. Maintaining the legitimacy of corporations in the eyes of stakeholders and ensure long-term business sustainability is the reason why corporation still need to do that (Huang and Li, 2017).

Companies need to ensure that the green accounting practices they implement align with sustainability goals and are supported by commitment from all organizational levels. Top management should provide strong support for sustainability initiatives and allocate adequate resources for their implementation (Al-Swidi and Saleh, 2021). Additionally, companies should engage employees in environmental programs and provide sufficient training so they can effectively contribute to sustainability efforts (Supadi and Sudana, 2018).

Transparency and accountability in reporting environmental performance also need to be enhanced. Assessment by stakeholder for corporation sustainable commitment can be helped if clear, measurable, and verifiable disclosure of environmental information available (Brooks and Schopohl, 2020). Improving quality and comparability of disclosed environmental information can be achieved using internationally recognized sustainability reporting guidelines, such as the Global Reporting Initiative (GRI) (Khan and Gupta, 2023).

In the long-term, benefit can be achieved by integrating environmental aspects into business strategy and decision-making. Good environmental performance can make corporations has better reputations in the eyes of consumers, investors, and other stakeholders (Amaranti et al., 2017). Several benefit, such as increasing customer loyalty, attracting sustainability-conscious investors, and enhancing access to resources critical for business growth can be achieved by having better reputation in stakeholder eyes (Al-Swidi and Saleh, 2021).

Corporations still need to prioritize environmental aspects in their business strategy, although this study's outcome give indication that connection amid green accounting and sustainable corporate performance does not moderate significantly by environmental performance. Positive connection amid green accounting and sustainable corporate performance can be supported by environmental performance in long term with proper management and strong commitment from all organizational levels.

Explanation of the use of environmental performance as moderating variable in the context of this study will be using legitimacy theory and stakeholder theory. Legitimacy theory stated that ensuring operation are in accordance with social norms and community expectations needs to be done so corporation can gain legitimacy. To meet society's demands for sustainability, corporations will be used PROPER, measurement for environmental performance in this context (Deegan, 2002). Managing corporations environment impacts in a transparent and accountable manner become corporate responsibility to several stakeholders, including regulators, consumers, and investors according to stakeholder theory (Freeman, 2010). Environmental performance as moderating variable can strengthen the connection amid green accounting and firm performance by showing how firms respond to stakeholders' expectations.

#### 4. CONCLUSION

The goal of this research is to investigate the impact of green accounting on sustainable corporate performance with environmental performance as a moderating variable in manufacturing corporations in food and beverage sector indexed on the Indonesia Stock Exchange from 2017 to 2021. The results indicated that green accounting, proxied by

environmental costs, negatively affects sustainable corporate performance measured by Return on Equity (ROE). Indication can be derived that the impact on sustainable corporate performance is better if environmental cost efficiently managed by the corporations. However, research result revealed that connection amid green accounting and sustainable corporate performance does not significantly moderate by environmental performance, measured by the PROPER rating. Compared to previous research, this research uses environmental performance as a moderating variable, which has not been previously explored in the relationship between green accounting and sustainable corporate performance and this become novelty of this research. Despite research results indicate that environmental performance does not significantly moderate this relationship, this research provides important understanding to support sustainable corporate performance by looking to the importance of environmental cost efficiency in green accounting practices. The study also emphasizes the need for environmental aspects to be integrated comprehensively into business strategy and to effectively implement sustainable practices to achieve optimal corporate performance in the long term. Therefore, this research contributes to the study result on green accounting and corporate sustainability and offers practical implications for companies in managing environmental costs and improving environmental performance to support sustainable corporate performance.

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