Green Corporate Social Responsibility and Sustainable Development Goals Disclosure: The Role of Female Board of Directors

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Abstract

This study aims to analyze the impact of green corporate social responsibility (CSR) on SDGs Disclosure, using female boards of directors as a moderating variable. The study population is manufacturing companies listed on the Indonesian Stock Exchange from 2018 to 2021. This type of research is quantitative. The sampling technique in this study was a targeted sampling method that yielded 68 company observations. The data used is secondary data in the form of corporate reports and sustainability reports. The analytical method in this study is multiple linear regression. The results of this study show that while green CSR positively impacts SDG disclosure, female boards of directors can strengthen the influence of green CSR on SDG disclosure. Overall, the findings of this study provide incentives for companies to strengthen green CSR as part of their competitive advantage strategy to achieve the 2030 SDGs targets.

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Introduction

Sustainable Development Goals (SDGs) are an interesting issue that needs to be studied and discussed in achieving sustainable development. The company is the main actor in achieving the SDGs by fulfilling its responsibilities to society, the environment and social affairs. The problem that occurs at this time is that the company still needs to improve overall performance. In some cases, companies are still doing severe environmental damage from their production and operating activities, and many of them are even pursuing high short-term profits by ignoring the ecological system (Dahan & Nurhayati, 2022). Therefore, companies must be able to align company performance with the fulfilment of environmental-based social responsibility in achieving the SDGs through the company’s green Corporate Social Responsibility Disclosure (Hsu, 2018).

Based on legitimacy theory, green CSR is one step to gaining social recognition from the surrounding community. When a company gets social recognition from the community through the implementation of Green CSR, the sustainability of a company can be maintained because the entity has implemented the applicable norms and pays attention to the community around the company, especially concerning environmental concerns. Green CSR has become a critical topic, and companies must take more implementation steps in carrying out company activities. With the Green CSR concept, companies can replace green or renewable resources in maximizing profits, thereby reducing energy consumption such as carbon gas emissions. Generated, protect the ecological environment, ensure product safety and the environment and create environmentally friendly products (Hang et al., 2022). The aim of Green CSR is so that the next generation can still enjoy the existing natural resources.

Current facts show that companies still need more concern and are low on sustainability reports, especially sustainability reports, to target environmental performance to achieve the SDGs (Halkos & Nomikos, 2021). Based on the Corporate Sustainability Reporting Index survey by Halkos and Nomikos (2021) states that only 15.7% of companies disclose CSR activities. This means that the company is still only focused on profit and needs to pay more attention to environmental and social aspects, unable to guarantee the sustainability of the company’s business in the future. Supposedly, every company must participate in reducing the negative impact of its operations and need to be committed to caring for the environment through Green CSR.

Previous research related to Green CSR and SDGs has never been done. Research only focuses on CSR activities in general in three areas, namely social, economic and environmental, towards the SDGs agenda. The study results show that companies contributing to and caring about global agreement issues will bring the company to a long-term strategy and improve performance (Ji & Miao, 2020). Furthermore, with the SDGs framework in every aspect of CSR activities, companies can focus on achieving each existing agenda and gain legitimacy from the surrounding environment (Fonseca & Carvalho, 2019). In addition, if we look at the research that discusses Green CSR, it still needs to be more frequent and shows the scarcity of research that discusses this matter. Previous research related to Green CSR focused on the foreign context. Then, companies that carry out proactive environmental strategies can build corporate sustainability (Adomako & Tran, 2022).

Then, research suggestions conducted by Moliner et al. (2020) state that when disclosing CSR activities, there is a need for further examination of the motives, decisions, and values of managers in playing a role in CSR activities. Based on stakeholder theory, the presence of women on boards is one part of company managers who play a role in increasing oversight and being able to manage the interests of many parties (García-Sánchez et al., 2019). Women’s board of directors can be responsible for risk management and company reporting, both financial and non-financial. Research by Biswas et al. (2022) explains that the presence of a female board of directors is more likely to understand CSR. Due to the nature of the board of directors, women are more concerned about welfare and environmental
activities. This is confirmed by research conducted by Manita et al. (2018), which states that female board of directors are more likely to understand environmentally oriented activities.

In connection with the research above, Zaid et al. (2020) research state that a female board of directors has a significant positive effect on CSR performance, which will impact corporate sustainability disclosures in Malaysia. This shows that the higher the implementation of Green CSR in the company, the higher the female board of directors in disclosing the company's CSR activities in sustainable development. Therefore, this study contributes to further investigating the green CSR phenomenon in Indonesia in exploring the effect of Green CSR on SDG disclosure with the role of female directors as moderators. This is important because it can provide new concepts and paradigms for companies to carry out efficiency and effectiveness in operational activities, especially in Indonesia. Then, recent estimates show that the implications of green CSR reduce risk for the company because of a female board of directors who are able and responsive to environmental issues. In addition, the authors also contribute to the development of moderating variables so that they can see the company's overall implementation in achieving the SDGS targets through Green CSR practices in Manufacturing companies listed on the Indonesia Stock Exchange.

Hypothesis Development
Green CSR and SDGS Disclosure
Based on legitimacy theory, the company's operational activities are guided by the norms and values that apply in the company environment (Deegan, 2019). This theory expresses Green CSR as a basis for sensitivity, which voluntarily expresses social responsibility based on green effectiveness to achieve sustainable and environmentally sound development (Dhar et al., 2022). Green CSR is a form of recognition of obligations or practices, such as reducing a company's operating waste to maximize the efficiency of their inputs and minimize negative ways to affect the country's future generations. Green CSR can indicate a company's efforts to accommodate stakeholders from business activities to improve company performance by achieving SDG disclosure (Wu et al., 2018).

This is evidenced by research conducted by Wu et al. (2018) and Jiao et al. (2022), which proves that green CSR can benefit development strategies in the long term through increased performance. Then, Kraus et al. (2020) research explains that Green CSR can achieve sustainable development performance in social welfare. Furthermore, Green CSR as a form of environmentally friendly activity can help companies achieve competitive advantage and innovation (Kwon & Ahn, 2020) and be able to face global competition (Fonseca & Carvalho, 2019). So, in general, the Green CSR program carried out by companies around the company's operational environment can fulfill the achievement of the SDGs disclosure.

H1: Green CSR has a positive effect on SDGs disclosure

The role of female Board of Directors in the relationship between Green CSR and SDGS Disclosure
Based on stakeholder theory, the presence of a female board of directors can pay attention to the interests of many parties, such as investors, creditors, suppliers, the state and society, especially in social responsibility activities. According to the study by Biswas et al. (2022), female boards of directors tend to understand CSR better. It is characterized by a woman's gentle, sensitive and supportive qualities. Due to these characteristics, women are more concerned about their well-being and the environment.

The above statement is emphasized from research in several contexts stating that the board in a company can make a program achieved by the company more innovative and encourage companies to make changes as a result of external demands (Molinier et al., 2020; Martinez-Jimenez et al., 2020). Yarram and Adapa (2022) proves that female boards of directors positively affect the understanding of CSR. Because having a female board of directors recognizes the development of SDG expertise, SDGs goals are expected to become an integral part of the company's business strategy.
This determination and commitment can result in women focusing more on CSR in the organizations in which they are involved. Organizations with more female directors thus try harder to increase positive CSR outcomes for various stakeholders to achieve the SDGs disclosure. This is confirmed by research by Zaid et al. (2020), which states that having a board of directors will strengthen CSR performance and impact SDGs disclosure.

**H2: The Female Board of Directors can strengthen the influence of Green CSR on SDGs disclosure**

### Methods

This type of research uses quantitative methods and is analyzed descriptively. The data used in this research is secondary data obtained from the Indonesia Stock Exchange website in the form of an Annual Report or Sustainability Report for 2018-2021. The sample for this study was formed by purposive sampling with 68 companies. The criteria for selecting this research sample are Manufacturing companies listed on the Indonesia Stock Exchange: 1). Manufacturing companies that publish Sustainability Reports using the Global Reporting Initiative (GRI) guidelines or annual reports for 2018-2021; 2). The company has data on the variables to be studied.

**Operational Variables and Measurement**

The variables used in this study consisted of three variables: independent variables, dependent variables, moderating variable and Control Variables. The dependent variable is SDGs Disclosure, the independent variable is Green CSR, the Moderating Variable is the female board of directors, and control variables include Return On assets, Company Age, Company Size and Leverage.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green CSR</td>
<td>The green CSR reporting index uses a scoring system which is calculated based on the scores of the items disclosed. Green CSR consists of 17 items disclosed, including: (1) environmental management system in a qualitative aspect (2) environmental management system in a quantitative aspect, (3) energy saving in a qualitative aspect (4) energy saving in a quantitative aspect, (5) emission reduction in qualitative aspect (6) emission reduction in quantitative aspect, (7) waste disposal in qualitative aspect (8) waste disposal in quantitative aspect (9) useful products and services (10) pollution prevention (11) renewable energy (12) resource recycling, (13) water efficiency, (14) sustainable packaging, (15) process improvement, (16) green innovation, and (17) environmental investment.</td>
</tr>
<tr>
<td>SDGs Disclosure</td>
<td>Dummy Variables. That measured using a score where a score of 1 will be given if one item is disclosed by the company and a score of 0 (zero) is given when there are no items in the standard that are disclosed. After scores are given for all items, these scores will be added together to obtain an overall score for each company</td>
</tr>
<tr>
<td>Female Board of Director</td>
<td>The proportion of women on the board of directors compared to the total number of board members.</td>
</tr>
<tr>
<td>ROA</td>
<td>Total profit divided by total assets</td>
</tr>
<tr>
<td>AGE</td>
<td>Ln Age of Company Listings</td>
</tr>
<tr>
<td>Size</td>
<td>Ln total asset</td>
</tr>
<tr>
<td>Leverage</td>
<td>Total Liabilities divided by Total Assets</td>
</tr>
</tbody>
</table>

This study uses multiple linear regression analysis to test the hypothesis of the effect of independent variables on the dependent and moderator variables (female board of directors) on Green CSR and SDGs Disclosure. The analysis in this study was carried out using the STATA statistical program package. In this study, using two models of equations as follows:
Model 1 Green CSR on SDGs disclosure

\[ \text{SDGs}_{D,t} = \beta_0 + \beta_1 \text{GCSR} + \beta_2 \text{ROA} + \beta_3 \text{AGE} + \beta_4 \text{SIZE} + \beta_4 \text{LEV} + \epsilon \]  

(1)

Model 2: The moderating effect of a female board of directors on the influence of green CSR and SDGs disclosure

\[ \text{SDGs}_{D,t} = \beta_0 + \beta_1 \text{GCSR} \times \text{FBD} + \beta_2 \text{ROA} + \beta_3 \text{AGE} + \beta_4 \text{SIZE} + \beta_4 \text{LEV} + \epsilon \]  

(1)

Information: SDGsD is Disclosure of SDGs, GCSR is Green CSR, FBD is Female Board of Directors, ROA is Return On Assets, AGE is Company Age, SIZE is Company Size, LEV is Leverage.

Result and Discussion

The population of this study was taken based on data from the Indonesia Stock Exchange (IDX) by taking public manufacturing companies. The total number of samples used in this study were 68 observations from 17 manufacturing companies.

Descriptive statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std.Deviation</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDGs Disclosure</td>
<td>0.584</td>
<td>0.274</td>
<td>0.059</td>
<td>1.000</td>
</tr>
<tr>
<td>Green CSR</td>
<td>0.668</td>
<td>0.146</td>
<td>0.412</td>
<td>0.941</td>
</tr>
<tr>
<td>Female Board of Directors</td>
<td>0.133</td>
<td>0.145</td>
<td>0.000</td>
<td>0.500</td>
</tr>
<tr>
<td>ROA</td>
<td>0.553</td>
<td>2.01</td>
<td>3.618</td>
<td>10.685</td>
</tr>
<tr>
<td>AGE</td>
<td>3.923</td>
<td>0.411</td>
<td>3.045</td>
<td>4.635</td>
</tr>
<tr>
<td>SIZE</td>
<td>21.394</td>
<td>4.472</td>
<td>8.86</td>
<td>26.629</td>
</tr>
<tr>
<td>Laverage</td>
<td>0.264</td>
<td>0.205</td>
<td>0.004</td>
<td>0.836</td>
</tr>
</tbody>
</table>

Source: Processed data, 2023

Descriptive statistical analysis provides an overview of data seen from each research variable's average value (mean), maximum value, and minimum value. Based on Table 2, the results of the descriptive analysis for each variable are that the minimum value of the SDGs disclosure variable is 0.059, and the maximum value is 1. The lower the SDGs value, the lower the disclosure of SDGs, while the higher the SDGs value indicates that the company cares about and is committed to activities and passionate about sustainable development. The average score is 0.584, which means that, on average, companies tend to carry out SDGs disclosure activities. The standard deviation value of this variable is 0.274. Then, the Green CSR variable is 0.412, and the maximum value is 0.941. The higher Green CSR value indicates that the company is increasingly disclosing Green CSR, which means the company cares about the environment. The median value is 0.668, meaning the average company can disclose green CSR. The standard deviation value of this variable is 0.146. Furthermore, the female board of directors is 0, and the maximum value is 0.5. The composition of the board of directors is minimal, which means that the proportion of female directors in the company is still too small. The mean or median is 0.133, meaning the male gender gap dominates the sample companies. The standard deviation value of this variable is 0.145.
Panel Data Regression Test Model 1
Table 3 Results
Model 1 Green CSR on SDGs disclosure

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expectation</th>
<th>Coefficient</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCSR</td>
<td>+</td>
<td>1,211</td>
<td>0.002***</td>
</tr>
<tr>
<td>ROA</td>
<td>+</td>
<td>0,005</td>
<td>0,764</td>
</tr>
<tr>
<td>AGE</td>
<td>+</td>
<td>0,023</td>
<td>0,799</td>
</tr>
<tr>
<td>SIZE</td>
<td>+</td>
<td>0,277</td>
<td>0,137</td>
</tr>
<tr>
<td>Leverage</td>
<td>+</td>
<td>0,155</td>
<td>0,230</td>
</tr>
</tbody>
</table>

N: 68
Adj.R²: 0.412(41,2%)
Prob>F: 0.0000

Source: Processed data, 2023

The Effect of Green CSR on SDGs Disclosure

Based on the research results on manufacturing companies, the table shows that Green CSR has a positive and significant effect on SDGs disclosure, as evidenced by a significance value of p <0.5 with a regression coefficient of 1,211. These results follow the initial prediction that Green CSR positively affects the Disclosure of SDGs. These results support hypothesis 1, so it can be concluded that disclosure of Green CSR activities can increase SDGs disclosure. The results of testing Hypothesis 1 show that Green CSR positively affects SDG disclosure. This shows that green CSR activities can be an element of profitable corporate strategy and build relationships that can bring long-term benefits to the company. The results of this study align with the research of Jiao et al. (2022) and Kraus et al. (2020), which show that green CSR benefits development strategies in the long term in the form of increased performance.

The results of this study indicate that companies that implement Green CSR in their operations can signify that they care and are environmentally friendly so that they can capture valuable information and knowledge about stakeholder needs (Kwon & Ahn, 2020). This is consistent with the legitimacy theory, which states that Green CSR can signify a company’s efforts to gain recognition from the community in carrying out environmental concerns that can improve company performance in achieving SDGs disclosure (Xue et al., 2022). This Green CSR practice is a form of their participation in contributing to sustainable development and creating value acceptable to their existence in society. Thus, it can also be seen that companies that disclose Green CSR activities can develop strategies and gain proper legitimacy for sustainability performance to stakeholders because they have potential sources of quality for corporate sustainability actors (Wu et al., 2018).

The role of female board of directors in moderating the Influence of Green CSR on SDGs Disclosure

Based on the results of the hypothesis 2 regression test, namely, the role of the moderating variable of the female board of directors on the effect of green CSR on SDGs disclosure has a positive and significant effect. Based on the data analyzed, companies with female boards of directors can strengthen the influence of green CSR on SDGs disclosure. This can be seen in the variable GCSR*FBD, which has a positive coefficient of 0.244 with a p-stat value of 0.043 (below 5%). This means that the presence of female directors as moderators can strengthen a significant influence on green CSR on SDGs disclosure.

The results show that the presence of a female board of directors can strengthen the influence of Green CSR on SDG disclosure. The results of this study align with research conducted by García-Sánchez et al. (2019)
that the role of a female board of directors can increase oversight and manage the interests of many parties in environmental activities. This can indicate that the presence of a female board of directors in the company better understands environmentally-oriented CSR activities and can reduce the risks that occur in companies related to social and environmental problems so that companies can strengthen in carrying out CSR activities.

This result is also in line with the stakeholder theory that the presence of a female board of directors can pay attention to the interests of many parties in achieving the SDGs targets through a commitment to social responsibility activities on Green CSR. Organizations with more female directors thus strive harder to increase positive green CSR outcomes for various stakeholders to achieve the SDGs. This is confirmed by research by Zaid et al. (2020), which states that having a board of directors will strengthen CSR performance, which will impact sustainability disclosure. This fact indicates that manufacturing companies have shown good governance by providing opportunities for women for leadership positions, namely the company's board of directors, because women tend to understand and be more sensitive to environmental activities.

### Table 4 Results moderating effect of a female board of directors

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expectation</th>
<th>Coefficient</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCSR *FBD</td>
<td>+</td>
<td>0.244</td>
<td>0.043***</td>
</tr>
<tr>
<td>ROA</td>
<td>+</td>
<td>0.016</td>
<td>0.749</td>
</tr>
<tr>
<td>AGE</td>
<td>+</td>
<td>0.088</td>
<td>0.784</td>
</tr>
<tr>
<td>SIZE</td>
<td>+</td>
<td>0.144</td>
<td>0.123</td>
</tr>
<tr>
<td>Leverage</td>
<td>+</td>
<td>0.111</td>
<td>0.296</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>Adj.R²</td>
<td></td>
<td>0.446(44.6%)</td>
<td></td>
</tr>
<tr>
<td>Prob&gt;F</td>
<td></td>
<td>0.0000</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Processed data, 2023

### Result Of Control Variables

The control variable in this study, ROA, does not affect SDGs disclosure. These results show. Companies that can generate high profits cannot show that their performance in achieving the SDGs targets is good so it can produce unfavourable responses from investors. Then, Firm age (AGE) in this study was found to have a positive and insignificant relationship to firm value. This indicates that a mature company not only focuses on company value but tends to maintain its sustainability by using its assets to increase productivity and invest in innovation because of the many competing companies. These results contradict the research of Coad et al. (2018), which says that mature companies will quickly change following environmental factors that affect company performance so that more mature companies are more productive than newly established companies. The older the company's age does not necessarily indicate that they are implementing sustainable behaviour in adopting environmentally friendly business practices.

Next, SIZE shows positive and insignificant results, which indicates that the bigger a company is, it does not affect SDG disclosure. The results of this study related to SIZE are in line with the findings of Baalouch's research (2019), where this is due to the allegation that the larger the total assets owned by a company may not be able to convince investors that company management can increase company value. Large companies may not dare to make new investments related to expansion before the obligations (debt) have been paid and do not make CSR implementation comprehensive.

The leverage control variable also shows positive and insignificant results. This indicates that companies with high debt have sufficient resources to carry out environmental activities and disclosures even though the
tested results are insignificant. This is due to the possibility that this leverage involves third parties, so it does not encourage companies to disclose information about social responsibility, especially in the environment. However, the results of this study are in line with the research of Kim et al. (2018) that funds available for loans/debt from third parties can be used to expand markets, pay operational costs and others. The size of the leverage level for companies does not guarantee that they will carry out activities to achieve the SDGs targets.

Conclusions and Recommendations

The research findings prove that the performance of manufacturing companies in Indonesia through the disclosure of Green CSR can significantly contribute to achieving the SDGs. Then, Green CSR activities strongly influence the disclosure of the SDGs, which comes from the presence of a female board of directors. The results of this study indicate that the application of green CSR and the presence of an excellent female board of directors related to environmental activities can have their uniqueness in creating favourable environmental and social conditions. Thus, companies implementing green CSR and female boards of directors can create environmentally friendly programs. Besides that, the manufacturing company's SDGs will provide changes in production management patterns. Integrating environmental sustainability issues into manufacturing business processes can encourage the implementation of green CSR as a business strategy that uses environmentally friendly concepts and creates a competitive advantage. Using legitimacy and stakeholder theory in this context can support results that follow this study's references.

This research has theoretical implications. Namely, it can add to the literature on green CSR, female boards of directors and SDGs disclosure. The practical implication of this research is that investors and other stakeholders can carry out separate assessments for companies that carry out green CSR having higher sustainable performance disclosures so that investment decisions will be more appropriate. In addition, the government, as a regulator, may again consider making better regulations regarding CSR disclosure because of its proven positive influence on SDG disclosure. This study has several limitations due to the limited time the author has. First, the results cannot be generalized because they only take samples of manufacturing companies in Indonesia for the 2018-2021 period. Second, the measurement of the female board of directors using only a dummy variable is felt to be very weak to see the impact of female directors in moderating the relationship between the position of green CSR and SDGs disclosure so that in the future, other measurements can be used that are more accurate, testing that the number of female directors in each company must be different. This research is limited to using content analysis, so a double-check is needed to see the accuracy of the analysis. Then, for further research, use interviews and questionnaires to deepen the results of research studies.

References


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