



Does the Code of Conduct Moderate Corporate Attributes and Carbon Emissions Disclosure?

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Abstract

The objective of this study is to analyze the effects of corporate attributes proxied by green strategy, institutional shareholding, and board of directors, with the code of conduct as a moderating variable on carbon emissions disclosure. Previous research has used many variables that affect carbon emissions disclosure, but there are a few studies that use a corporate code of conduct to strengthen the relationship between each variable and disclosure of carbon emissions. This study uses the measurement of the corporate code of conduct, which is based on the highest index results for disclosing carbon emissions. A quantitative approach was used with 140 observations from 28 consumer goods companies listed on the Indonesia Stock Exchange (IDX) from 2015–2019. The data were analyzed using a moderating regression analysis. The results found that green strategies have a positive and significant influence on carbon emissions disclosure, while institutional shareholding and board of directors have no influence on carbon emissions disclosure. Therefore, the code of conduct can strengthen the relationship between green strategies and carbon emissions disclosure. However, the code of conduct cannot moderate the relationship between institutional ownership and the board of directors on carbon emissions disclosure. Companies must take advantage of opportunities from the impact of climate change through a green strategy through the implementation of an effective corporate code of conduct to strengthen their competitive advantage through disclosure of carbon emissions information.

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Carbon emission disclosure
Green strategy
Institutional ownership
Board of directors
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1. Introduction

The coronavirus (Covid-19) pandemic had a positive effect on reducing global carbon dioxide emissions by 17% (www.asiatoday.id). The reduction resulting from the decline in transportation and industrial activity during the pandemic is one of the largest single emissions reductions in history. However, these reductions were only temporary. The future weakening of the global economy will only lead to temporary emissions reductions. After economies recover, emissions will rise again (www.nationalgeographic.grid.id), and the increase in greenhouse gas emissions is set to become a new pandemic that could destroy a third of the human population on earth.

Various efforts have been made to overcome the consequences of global warming and climate change through cooperation between countries or through international negotiations, starting with the United

Nations Framework Convention on Climate Change (UNFCCC) in 1992. Thereafter, the Paris Climate Agreement of 2015 was adopted as a new instrument under the Kyoto Protocol, which aims to stop the average global temperature rising above the threshold of 2°C (Windyswara, 2019). From December 2015 to January 2018, 172 countries ratified the Paris Agreement, including Indonesia, which was later ratified as the Law of the Republic of Indonesia No. 16 of 2016. On this matter, top management is urged to reduce emissions and improve carbon disclosure policies to meet the data needs of various stakeholders. Despite pressure from voluntary initiatives and encouragement from regulators, non-binding regulations and voluntary carbon reporting have not been widely recognized.

In the context of legitimacy theory and stakeholder theory, researchers specifically examine problems related to industrial companies' claims regarding CO₂ emissions (Gunawan, 2013). The aim of "going green" in main business activities is not a new phenomenon as it was introduced in 1980 (Makower, 2008). These efforts not only protect the earth from climate change due to the rise in the earth's temperature caused by the effects of greenhouse gases, but it can also increase business efficiency. Previous research found that a green strategy consists of raids, booms, and borders (Hansen & Klewitz, 2012). Other research has adopted environmentally friendly strategies consisting of pollution prevention, clean products and services, and technology (Masoumik, Abdul-Rashid, & Olugu, 2015). Research recognizes Lean & Green strategies (Duarte & Cruz-Machado, 2013). Not many have found that using the measurement modifications by Moini, Soresen, and Kristiansen (2014) takes into account content analysis, which uses four themes – formulating and pursuing a green strategy, the level of management's involvement in the green strategy, changes in the business model of the company, and the green strategy management to measure the extent to which a green industrial strategy can be formulated and pursued and what impact it has on the whole of the industry to understand the impact of climate change on the industry's emissions management, expressed in carbon emissions data disclosure.

Second, companies with high institutional ownership (INS) will improve corporate oversight and submit to pressure from stakeholders and shareholders (Borghei-Ghomi & Leung, 2013; Cotter & Najah, 2012; Pratiwi, 2017). According to Hermawan, Aisyah, Gunardi, and Putri (2018) and Kiswanto (2020), a low INS will also promote good disclosure of carbon emissions as it is part of management policy.

Third, according to Kieso, Weygandt, and Warfield (2018), demographic data for accounting are also supported by educational level or educational diversity. The level of education shows the level of individual workability. The skill level also shows the individual's ability to think in various aspects of life. The higher the level of training of the board of directors (BOD), the greater the awareness of the importance of disclosure of CO₂ emissions, and the better the management of the company, the better the company can meet its environmental responsibilities (Amaliyah & Solikhah, 2019; Krisna & Suhardianto, 2016; Manurung, Kusumah, Asikin, & Suryani, 2017). According to Hossain and Farooque (2019) and Yunus, Eljido-Ten, and Abhayawansa (2016), companies with no background in business or business education are less likely to disclose information about carbon emissions.

Several previous studies have used many variables that affect carbon emissions disclosure, such as Borghei-Ghomi and Leung (2013), who used variables of business size and good governance. Luo and Tang (2014) used carbon performance, company size, leverage, and industry effects. Liao, Luo, and Tang (2015) used variables on gender diversity, independence from local councils, and committees. Ahmadi and Bouri (2017) used environmental sensitivity and asset returns. Sudibyo (2018) used variables such as company value, carbon emissions, and carbon management disclosure. Saptiwi (2019) used variables pertaining to the industry type, environmental performance, and company characteristics. However, researchers have not found a variable that ethics uses to strengthen the relationship between each variable and carbon emissions disclosure. Compliance with rules and guidelines, no need for reflection, and autonomous decision-making at the individual or company level seem to represent unethical behavior, as it means that no attempt has been made to make decisions based on specific situations and no attempt has been made to simply take responsibility. Compliance needs to be reinforced by the company's code of conduct and should be applied to carbon emissions disclosure practices. On this basis, this study uses a code of ethics as a moderating variable.

This research seeks to fill a gap in the literature by examining the effect of green strategy, institutional ownership, and the board of directors on carbon emissions disclosure and determine if the corporate code of conduct variable can moderate green strategy, institutional ownership, and board of directors and carbon emissions disclosure variables. The research focuses on the consumer goods industry in Indonesia, which belongs to one of the highly sensitive industrial zones (Gunawan, 2013) that continues to grow, especially with increasing population development, leading to an increase in plastic waste resulting in pollution. Therefore, companies in this zone receive particular attention from observers of the area as well as stakeholders regarding pollution and destruction of the intertwined areas. Therefore, this research focuses primarily on carbon emissions disclosure from companies in the consumer goods industry listed on the Indonesia Stock Exchange.

2. Literature Review

2.1. Theoretical Framework

Stakeholder theory holds that a company is not an entity that acts only for itself, but must provide benefits for its stakeholders (shareholders, creditors, consumers, suppliers, government, society, analysts, and other parties). Hence, a company's existence is heavily influenced by the support it receives from its stakeholders (Andrian & Sudibyo, 2019). One of the strategies for maintaining relationships with the company's stakeholders is to be environmentally conscious. In this case, disclosing carbon emissions is expected to satisfy stakeholders' desires and build harmonious relationships, enabling the company to achieve sustainability (Cahya, 2016). Legitimacy theory focuses on making the relationship between businesses and communities a reality through government regulations. According to Gray, Owen, and Adams (1996), disclosure plays a role in connecting businesses to community groups. Companies are motivated to gain legitimacy from the community because they want to ensure that the company's business activities comply with applicable regulations and boundaries (Deegan & Shelly, 2014). When the results are similar between the company and the community, legitimacy is acquired by the company itself, reducing the long-term risk from community requirements (Deegan, Rankin, & Tobin, 2002). To gain legitimacy, the Indonesian government approved the first phase of the Kyoto Protocol through Law No. 16, Presidential Decree No. 17 of 2004, and Law No. 61 of 2011 on a national action plan to reduce greenhouse gas emissions by 26% or cooperate with international partners to reduce emissions by 41% in 2020 without an action plan. The above actions taken by the government are various efforts by corporate actors to reduce greenhouse gas emissions as evidenced by carbon emissions disclosure (Irwhantoko & Basuki, 2016).

2.2. Hypothesis Development

Businesses can incorporate risks and opportunities into strategies that affect the environment. In particular, companies that are concerned with climate change, such as forestry, energy and transport, agriculture, industry, and waste, will disclose information on their CO₂ emissions. Carbon emissions disclosure helps businesses to manage emissions, and the risks and opportunities regarding climate change can be integrated into a company's green strategy. Paulraj (2009) emphasized the importance of understanding various organizational motivations for pursuing green business practices. Bansal and Roth (2000) identified three types of motivation: competitiveness, legitimacy, and environmental responsibility.

Therefore, going green has to go beyond the economic level of the company from a legal point of view (Moini et al., 2014). Also, Miles and Covin (2000) found that motivation to become more environmentally friendly may come from the reputation associated with "corporate greening" as it can ultimately improve a company's marketing and financial performance. The ethical awareness of owners and managers plays an important role in pursuing green strategies, according to Kabiraj, Topkar, and Walke (2010). Hence, researchers believe that companies that capitalize on the effects of climate change by employing green strategies demonstrate their ability to manage carbon emissions by disclosing relevant information (Makower, 2008; Afni, Gani, Djakman, and Sauki, 2018). On this basis, the following hypothesis can be formulated:

H_a: Green strategy has a positive effect on carbon emissions disclosure.

According to Amaliyah and Solikhah (2019), institutional ownership is ownership of all company shares issued by an institution. Stakeholder theory explains the relationship between a company and its stakeholders, whereby management tries to be open to all company activities. Institutional ownership offers the best control over management, and the pressure to disclose environmental social responsibilities is high. According to Pratiwi (2017), owners of large institutions will increase the oversight of a company so that all company activities are exposed, which strengthens the company's positive image among the stakeholders. The transparency of the CO₂ emissions increases a company's value and contributes to its sustainable development. Kim and Lyon (2011) showed that institutional investors' awareness of climate change can increase shareholder value and management awareness.

The strength of institutional investors can put market pressure on companies to reduce their greenhouse gas emissions. Aside from these recommendations, there is also the view that institutional investors consider climate risk in their decision-making processes and shift their investments to good climate actors (Harmes, 2011; Deegan et al., 2002). Borghei-Ghomi and Leung (2013) added that higher institutional ownership suggests that institutional investors in companies have high voting rights to disclose carbon emissions. According to studies by Ben-Amar, Chang, and McIlkenny (2017); Jaggi, Allini, Macchioni, and Zagaria (2017) and Bose, Khan, Rashid, and Islam (2018), institutional investors include climate risk in their decision-making processes when greenhouse gas emissions are disclosed. On this basis, the following hypothesis can be formulated:

H_a: Institutional shareholding has a positive effect on carbon emissions disclosure.

According to Amaliyah and Solikhah (2019), legitimacy theory explains that companies that carry out activities must comply with the rules and norms that apply in society. The board of directors is the most important part of management and is responsible for the legitimacy of all stakeholders. To achieve this legitimacy, the company must always fulfil its social responsibility toward the community and be open about its impact on the environment and its CO₂ emissions. Following Hadya and Susanto (2018); Manurung et al.

(2017) and Krisna and Suhardianto (2016), educational level indicates an individual's ability to do work. The skill level also shows the individual's ability to think in various activities in life. The higher the education level of the board of directors, the better the understanding of the importance of disclosure of CO₂ emissions, and the better the management of the company and its ability to comply with environmental standards. This is an indicator that additional training triggers a change in the mindset of the board of directors. If a company is run by highly skilled people, it will certainly lead to increased disclosure of CO₂ emissions. On this basis, the following hypothesis can be formulated:

Ha: The board of directors has a positive influence on carbon emissions disclosure.

According to Siltaoja (2006), the code of ethics plays an important role in building trust. Trust must be instilled in internal stakeholders before it can be passed on to external stakeholders who are indirectly linked to the company. Companies with an effective Corporate Code of Conduct (CCOC) will strengthen environmentally friendly strategic relationships by disclosing CO₂ emissions. This is because the green strategy sees the code of ethics as a guideline to be followed when formulating guidelines for disclosing carbon emissions (Khalid, Atkins, & Barone, 2019). On this basis, the following hypothesis can be formulated:

Ha: The corporate code of conduct strengthens the relationship between green strategy and carbon emissions disclosure.

Companies with a high degree of institutional responsibility see good business ethics as a form of compliance with the law and they are therefore under greater pressure to disclose their carbon emissions (Lawler & Ashman, 2012). According to Waweru (2020), a code of ethics has been drawn up in every business activity to ensure a shared commitment that the company complies with the existing code of conduct, which undoubtedly strengthens the ownership of large institutions (better supervision, administration and openness). Pressure to disclose carbon emissions can provide a better network with stakeholders. On this basis, the following hypothesis can be formulated:

Ha: The corporate code of conduct strengthens the institutional relationship between shareholding and carbon emissions disclosure.

The board of directors has moral obligations toward its stakeholders, such as protecting the rights and interests of minority shareholders and employees, and their safety (Waweru, 2020). According to Abdullah and Aziz (2018), a code of ethics will strengthen the relationship between directors and stakeholders as carbon emissions disclosure can be used as a means of communicating environmental responsibility. On this basis, the following hypothesis can be formulated:

Ha: The corporate code of conduct strengthens the relationship between the board of directors and carbon emissions disclosure.

3. Research Methodology

The subject of this study is consumer goods companies that were listed on the Indonesia Stock Exchange (IDX) from 2015 to 2019. The content analysis method was employed to collect the carbon emissions disclosure (CED), green strategy (GRS), and corporate code of conduct (CCOC) scores. The data used in this study is secondary data obtained from the IDX annual financial reports, the companies' websites, and their sustainability reports. Multiple linear regression is used because this study has more than one independent variable. The number of samples used in this study was 140 observations from 28 companies selected using a purposive sampling method with the following criteria: they are consumer goods companies, they disclosed their carbon emissions, green strategy, and corporate code of conduct during the research period, and they provide complete information on each of the variables studied. The variables and their measurements are shown in Table 1.

Disclosure of the corporate code of conduct is taken from the results of the disclosure of the highest implementation of good corporate governance conducted by Andrian & Sudibyo (2019) on PT Unilever Indonesia Tbk, which was used as the standard for disclosing the code of ethics for companies in the consumer goods industry.

The dependent variable is CED, and the independent variables are GRS, INS, and BOD. The moderating variable is CCOC. The research problems investigated in this study are reflected in hypotheses Ha₁–Ha₆. To answer these problems, the following formula is used:

$$CED = \alpha + \beta_1 GRS + \beta_2 INS + \beta_3 BOD + \beta_4 GRS.CCOC + \beta_5 INS.CCOC + \beta_6 BOD.CCOC + e$$

Information:

CED = Carbon Emissions Disclosure

α = Constant

GRS = Green Strategy

INS = Institutional Shareholding

BOD = Board of Directors

CCOC = Corporate Code of Conduct

e = Standard Error

Table 1. Variable Measurement.

Variable	Indicator	Scale
Carbon emissions disclosure Rusli, Yvonne, Etty, and Ririn (2019) & Choi, Lee, and Psaros (2013)	Carbon emissions disclosure index: CED = V/M Description: CED: Carbon emissions disclosure V: Total items disclosed M: Total expected items Which are: CED1: 2 items CED2: 11 items CED3: 4 items CED4: 4 items CED5: 2 items	Ratio
Green strategy (Moini et al., 2014)	Green strategy index: GRS = V/M Description: GRS: green strategy V: Total items disclosed M: Total expected items Which are: GRS1: 4 items GRS2: 5 items GRS3: 4 items GRS4: 5 items	Ratio
Institutional shareholding (Hermawan et al., 2018)	The percentage of shares owned by the institution divided by the total shares outstanding.	Ratio
Board of directors (Hadya & Susanto, 2018)	The number of directors with economics and business education or with experience in accounting and/or finance divided by the total number of members on the board of directors.	Ratio
Corporate code of conduct (Andrian & Sudiby, 2019)	Corporate code of conduct index: CCOC = V/M Description: CCOC: Corporate code of conduct V: Total items disclosed M: Total expected items Which are: CCOC1: 1 item CCOC8: 1 item CCOC2: 1 item CCOC9: 2 items CCOC3: 8 items CCOC10: 1 item CCOC4: 1 item CCOC11: 1 item CCOC5: 1 item CCOC12: 4 items CCOC6: 1 item CCOC13: 1 item CCOC7: 1 item CCOC14: 1 item	Ratio

It is important to note that the data for this calculation were taken from the annual reports and/or the sustainability reports released on the same date as the CED and the year-end data. The regression between CED as the dependent variable, GRS, INS, and BOD as the independent variables, and CCOC as the moderating variable can provide evidence of which factors have a significant effect on CED and which factors can be moderated significantly by the CCOC.

4. Results and Discussion

4.1. Descriptive Statistics

The descriptive statistics for all the research variables are provided in Table 2.

Table 2. Descriptive Statistics.

Variable	Min.	Max.	Mean	Std. deviation
CED	0.0434	0.9565	0.3602	0.2199
GRS	0.0555	0.6667	0.4400	0.1625
INS	0.2366	0.9896	0.7800	0.1458
BOD	0.1111	1.0000	0.5935	0.2237
CCOC	0.0400	0.9600	0.2445	0.1489

When monitoring consumer goods companies from 2015 to 2019, the lowest minimum value of 0.0400 was determined by the Corporate Code Conduct (CCOC) variable. This is because the code of conduct applied by each company is different and not all focus on the main environmental and social aspects. The highest

maximum value (1.0000) was obtained from the board of directors (BOD) variable. This shows that some of the observed companies have the same total number of directors with economic backgrounds as the total number of board members.

4.2. Classic Assumption Test

The results of the normality test show a Jarque–Bera value of 4.731886 and a probability value of 0.093861. Because 0.093861 is greater than 0.05, it can be concluded that the data used in this study are normally distributed. Based on the results of the multicollinearity test, all variables have a value < 0.80, so it can be concluded that there is no multicollinearity in this study. The results of the heteroscedasticity test for all variables used in this study show probability values greater than 0.05, so it can be concluded that there is no heteroscedasticity in this study. The result of the autocorrelation test for all variables shows a probability value of 0.8274, which is greater than 0.05. It can therefore be concluded that there is no autocorrelation in this study (Widarjono, 2017).

4.3. Regression Results

The results of the regression are presented in Table 3 below.

Table 3. Regression results.

CED = α + β1 GRS + β2 INS + β3 BOD + β4 GRS.CCOC + β5 INS.CCOC + β6 BOD.CCOC + e					
Variable	Pred sign	Coeff.	t-stat	Prob.	Result
Constant		0.146	0.947	0.345	
GRS	(+)	0.450	3.268	0.001*	Accepted
INS	(+)	-0.214	-1.110	0.268	Rejected
BOD	(+)	0.079	0.790	0.430	Rejected
GRS*CCOC	(+)	1.602	2.538	0.012*	Accepted
INS*CCOC	(+)	0.740	1.021	0.308	Rejected
BOD*CCOC	(+)	-0.238	-0.560	0.576	Rejected
Prob (F statistic)				0.000*	
Adj. R-squared				0.677	
Std. error				0.124	
N				140	

Note: * p < 0.05. Dependent variable: carbon emissions disclosure (CED); Independent variables: green strategy (GRS), Institutional ownership (INS), and board of directors (BOD); Moderating variable: Corporate code of conduct (CCOC).

It can be seen that the probability statistic value F is 0.0000, with a significance level below 0.05. From this, it can be concluded that this research model is feasible and can be used to predict the information on carbon emissions. The coefficient of determination (adjusted R-squared) is 0.677. This shows that the company's green strategy, institutional ownership, board of directors, and code of conduct can explain 67.7% of the carbon emissions disclosure, while the remaining 32.3% is explained by other variables not included in this study. The standard error of estimation (SEE) value is 0.124. This means that the smaller the SEE value, the more precise the regression model in this study is in predicting the disclosure of carbon emissions.

5. Discussion

Based on the results of the statistical t-test, it can be concluded that green strategies have a positive and significant influence on the disclosure of carbon emissions. This study is in line with Makower (2008) and Afni et al. (2018), who stated that companies can integrate risks and opportunities into corporate strategies that affect the environment and create opportunities by harnessing competitive advantage through green strategies. Companies can demonstrate their ability to manage carbon emissions by disclosing the relevant information in response to competitiveness, legitimacy, and environmental responsibility for marketing purposes and to improve their financial performance.

Additionally, it can be concluded that institutional ownership does not influence the disclosure of carbon emissions. This result is in line with Hermawan et al. (2018) and Kiswanto (2020), who stated that a small amount of institutional property is due to the transfer of institutional property to management property. Also, institutional ownership in Indonesia is still relatively small, so good carbon emissions disclosure can continue to be encouraged through policies.

It can also be concluded that the board of directors does not influence the disclosure of carbon emissions. This result is in line with Setiawan, Soeprajitno, and Iswati (2019) and Yunus et al. (2016), who found that members of boards of directors with a background in business and economics education are likely to disclose less information on carbon emissions because they are still focused on the company's financial situation.

Based on the results of the statistical t-test, it can be concluded that the company code of conduct can strengthen the relationship between green strategy and carbon emissions disclosure. This is in line with

research by Siltaoja (2006), who found that companies with an effective corporate code of conduct will strengthen the green strategic relationship with disclosure of carbon emissions. This is because green strategies are based on the code of ethics and should be followed when developing guidelines for disclosing carbon emissions (Khalid et al., 2019).

Furthermore, it was found that a company's code of conduct cannot moderate the relationship between institutional ownership and carbon emissions disclosure. This is in line with the study by Khan, Muttakin, and Siddiqui (2013), according to which institutional holdings with a code of ethics have a different problem where industrial managers with a concentrated ownership structure tend not to engage in voluntary disclosure when payments (competition, litigation, and regulation) are high and the code of ethics focuses on the company's internal operations.

Finally, it can be concluded that a company's code of conduct cannot moderate the relationship between the board of directors and the disclosure of carbon emissions. This is in line with the research by Budiharta and Kacaribu (2020), who stated that despite public pressure to disclose CO₂ emissions, the board of directors is still reluctant to do so, especially if the costs involved are too high and the existing code of conduct focuses on economic issues rather than social and environmental awareness.

6. Conclusion, Limitations, and Suggestions

6.1. Conclusion

This study used a panel data model to obtain empirical evidence of the impact of environmental strategy, institutional ownership, and the board of directors on the disclosure of carbon emissions, with the company code of conduct as the moderating variable, from 2015 to 2019. The results of the analysis show that environmental strategy has a positive effect on the disclosure of CO₂ emissions, but institutional owners and directors have no significant influence on the disclosure of carbon emissions. The company's code of conduct can strengthen the relationship between green strategy and carbon emissions disclosure. This shows that companies seizing opportunities from the effects of climate change and using competitive advantages through green strategies demonstrate their ability to manage CO₂ emissions by disclosing information regarding their CO₂ emissions and the existence of an effective corporate code of conduct (CCOC).

The results of this study can encourage companies to incorporate risks and opportunities into corporate strategies that affect the environment and implement processes to protect the earth from climate change caused by the increasing impact of businesses. Also, a code of ethics should be drawn up that supports the direction of sustainable development.

6.2. Limitations & Suggestions

The limitation of this study is the subjectivity of the assessment phase of the content analysis to determine the level of carbon emissions disclosure, green strategy, and code of conduct. For further investigation, the observation period should be extended and other highly sensitive industrial zones should be used, such as mining, transport, and agriculture, to obtain a more representative sample to answer the research questions. Other variable proxies can be used for good corporate governance, such as ASEAN corporate governance scorecards, and the research sample could be expanded by adding other ASEAN countries or grouping the countries in the emerging market.

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