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Carbon Emission Disclosure: The Influence of External Stakeholder Preassure and Environment Performance

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Abstract

The purpose of this paper is to investigate the effect that pressure from external stakeholders and environmental performance have on the reporting of carbon emissions by corporations. Purposive sampling was utilized to pick samples for use in this study. These samples were selected from sustainability reports and annual reports of companies that were registered with the Asia Sustainability Reporting Rating (ASRRAT) for 2019–2021. The data that was used in this study was considered to be secondary data. This investigation takes a quantitative approach and using a method called Multiple Regression Analysis. According to the study's findings, institutional ownership, diffusion ownership, and environmental performance have no discernible influence on the disclosure of carbon emissions, whereas the media exposure variable significantly affects the degree of disclosure.

Keywords *Carbon emission disclosure, public ownership, media exposure, institutional ownership, environmental performance*

INTRODUCTION

In the twenty-first century, climate change is a significant problem. Due to carbon sequestration, commercial carbon emissions, and human activity, all of which will continue to rise over time, the world of industrial technology has an unavoidable detrimental impact on the environment. Climate change, which contributes to global warming and inexorably harms ecosystems, is the most visible environmental problem (Setiawan & Iswati, 2019). The realization that organizational activities are one of the major contributors to greenhouse gas (GHG) emissions has increased the environmental demands on organizations. One of the main ways that large organizations are addressing this situation is through voluntary carbon disclosure (Mateo-Márquez et al., 2022).

According to PERPRES No. 47 of 2012, commercial enterprises contribute to measures to lower greenhouse gases, including carbon emissions. Companies can help reduce emissions by revealing their emissions as business agents. Additionally, because they are accountable for the environment, revealing carbon emissions can boost their legitimacy in the eyes of public (Pratiwi, 2017). Companies that emit greenhouse gases in particular may face concerns such as rising operational expenses, declining demand, reputational risk, legal issues, and fines and penalties, which can be made known to them by disclosing their carbon emissions (Cahya, 2017). Carbon emissions are a hot problem that is causing a lot of concern in the fields of resources and the environment. Enhancing resource management and environmental protection is crucial. The environmental consequences of corporate growth are beginning to receive more attention from institutional investors, the media, and people from all walks of life (Tang et al., 2022). The Indonesian government is aware of the value of social responsibility and demands that business leaders adopt it. As a result, UU No. 40

of 2007's article 74, which states that "Companies that run businesses in the field or related to natural resources are required to carry out social and environmental responsibility," governs the implementation of corporate social and environmental responsibility.

Companies should publish their carbon emissions for two reasons, according to Schiemann et al. (2015). First, governments and the general people are paying more and more attention to climate change. Second, as evidenced by the numerous research on the influence of corporations on climate change, academics are also concerned about the disclosure of carbon emissions (Boons, 2013). Stakeholder theory and legitimacy theory are closely related for the two reasons listed above. According to these two theories, the business considers the interests of its stakeholders as well as its own bottom line. Disclosure reports may serve as proof of a company's accountability or as a response to stakeholder support (Hanifah & Wahyono, 2018). A corporation may choose to disclose for a variety of different reasons in addition to these two.

Numerous researchers have studied disclosure as a result of the significance of disclosing carbon emissions, including Chang & Zhang (2015), Halimah & Yanto (2018), Luo, Tang, & Lan (2013), and Amaliyah & Solikhah (2019), who use a variety of variables as determinants of disclosure of carbon emissions. The demand from outside stakeholders and the business' environmental performance are two factors that are of great relevance in this matter. Stakeholder pressure is an indirect demand made on businesses to keep up their environmental responsibility efforts by outside groups. Environmental performance is similar. More businesses are required to provide information about their environmental performance in an annual report the more they participate in environmental activities (Ardyaningsih and Oktarina, 2022).

Previous research has tended to focus on how financial variables affect how much information about carbon emissions is disclosed, but it rarely looks at how stakeholder pressure affects how much information is disclosed. Using the legitimacy theory as a guide, businesses attempt to match organizational operations with societal and environmental norms. This is connected inadvertently to the rise of demand from outside interests. Studies on environmental performance are also uncommon. This study will investigate if the level of disclosure, particularly the disclosure of carbon emissions, is reflected in the environmental performance title a government grants a corporation. This study seeks to determine which factors influence the disclosure of company carbon emissions from the standpoint of external stakeholder pressure and environmental performance based on the prior explanation and previous research gaps.

LITERATURE REVIEW

Legitimacy Theory

The founders of legitimacy theory, Dowling and Pfeffer (1975), outlined how organizations should strive to balance social values present in organizational activities with social norms present in the social environment in which the organization operates. The "social contract" that exists between a firm and the community in which it works serves as the cornerstone of legitimacy theory. Wibowo et al. (2022), Imam Ghozali (2014).

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Through the disclosure of sustainability reports, companies must be able to articulate the social and environmental effects that they are responsible for. According to Yunan et al. (2021) this seeks to give the company a favorable reputation from the perspective of stakeholders so that the company can continue to support its survival.

Carbon Emission Disclosure

The Indonesian Financial Accounting Report Standards (Statement of Financial Accounting Standards/PSAK) No. 1 paragraph 9 on environmental problems regulates CSR, which includes disclosure of carbon emissions. After the government issued Presidential Regulation No. 61 of 2011 concerning the National Action Plan for Reducing Greenhouse Gas Emissions (RAN GRK) and Presidential Regulation No. 71 of 2011 concerning the Implementation of the National Greenhouse Gas Inventory, disclosure and reporting of data on carbon emissions in Indonesia started to develop (Nainggolan & Rohman, 2015).

One instance of environmental disclosure included in the supplementary report mentioned in the PSAK is the declaration of carbon emissions. According to Jannah (2014) on Irwhantoko & Basuki (2016), environmental disclosure covers risks and opportunities associated with climate change impacts, the intensity of GHG emissions, or greenhouse gases, and energy use. It also covers corporate governance and climate change-related strategies.

Diffusion Ownership

Public ownership, according to Suchman (1995), is ownership by private investors who are not affiliated with the company's management. The public's ownership of shares of a corporation demonstrates the extent of that ownership. Since individual investors typically own less than 5% of the corporation, they have no power over it. By comparing the number of shares owned by the public with the total number of outstanding firm shares, the percentage of shares that are owned by the public, which represents this variable, is determined. (Rifqiyah, 2016) and (Septianingsih, 2019).

Media Exposure

Media exposure is the revelation of the company's positive values through carbon disclosure initiatives using corporate media. Companies must be able to connect with stakeholders and meet their needs if they hope to acquire their trust and legitimacy through carbon disclosure initiatives. The company's reputation will be improved in the public's eyes by communicating social responsibility through the media. (Sparta and Rheadanti, 2019). A company's exposure is dependent on how much media attention it receives (Gamerschlag, Möller, & Verbeeten, 2011).

Institutional Ownership

The proportion of shares held by organizations or commercial entities is known as institutional ownership. Institutional ownership has a tendency to hold a sizable amount of the stock market, and because of this, it is uniquely positioned to oversee and exert significant pressure on management over both business operations and social responsibility reporting. It is envisaged that institutional ownership will make managerial oversight of all business operations more effective. Because later on this will become one of the company's images, management will face more pressure to maintain corporate social responsibility the larger the institutional ownership. (Almuaromah & Wahyono, 2022)

Environmental Performance

According to Aulia and Hadinata (2019), environmental performance refers to a company's capacity to maintain a clean, green environment and offer excellent social environmental reporting to stakeholders. With the PROPER grade, this study evaluates environmental performance. The Ministry of Environment (KLH) has been developing the PROPER rating since 1995 as a firm performance rating evaluation methodology in environmental management. Five scales make up this rating: Gold, Green, Blue, Red, and Black. According to the idea of legitimacy, which examines how companies and society interact socially, companies that wish to be accepted by society must adhere to its norms, one of which is protecting the environment. Companies that have strong environmental records or high PROPER ratings frequently make more effort than other businesses to disclose their environmental practices in the best possible ways. 2019 (Amaliyah and Solikhah)

HYPOTHESIS DEVELOPMENT

The Effect of Diffusion Ownership on Carbon Emission Disclosure

Transparent communication with shareholders and the general public is required of publicly owned businesses. Due to pressure from shareholders and investors to learn all there is to know about a company's environmental impact, public ownership can have an impact on the disclosure of carbon emissions. Full disclosure of carbon emissions can improve a company's degree of transparency and give shareholders the ability to track and assess the environmental practices of the business. (Julekhah & Rahmawati, 2019).

The level of public oversight of all firm operations rises proportionately to the amount of public ownership. This is consistent with the legitimacy theory, which asserts that a high amount of public ownership of shares will raise the level of environmental disclosure of corporate social responsibility initiatives. Businesses that operate effectively will also find that the community reacts favorably to the company's existence (Wartina & Apriweni, 2018).

H1: Diffusion ownership affects carbon emission disclosure

The Effect of Media Exposure on Carbon Emission Disclosure

The media, which shapes the company's reputation and can influence the level of corporate disclosure, is one of the interested parties. Media exposure can have a significant impact on a company's reputation (Herdiawan & Dewi 2020). If a firm is discovered to have excessive carbon emissions and fails to report them transparently, its reputation may suffer in the eyes of consumers and other stakeholders. Businesses that actively cut carbon

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emissions and openly share their emission statistics to the media, on the other hand, can build a favorable reputation as enterprises dedicated to sustainability and the environment. According to Wang et al. (2013) and Cahya (2017), there is a favorable association between media exposure and disclosure of social responsibility. As a result, organizations that receive more media attention are anticipated to publish more CSR information, including carbon disclosure, than those that receive less (Belkaoui & Karpik, 1989).

H2: Media exposure affects carbon emission disclosure

The Effect of Institutional Ownership on Carbon Emission Disclosure

The percentage of shares that are owned by a company or institution is known as institutional ownership. According to Wartyna and Apriweni (2018), institutional shareholders typically exercise more oversight when there is a high level of institutional ownership. According to legitimacy theory, businesses always seek to bring society's social values into harmony. A form of environmental responsibility, greater institutional ownership encourages and monitors businesses to continue disclosing their social and environmental initiatives in order to improve the perception of stakeholders. According to Pratiwi (2017) and Amaliyah (2019)'s research findings, institutional oversight of businesses will encourage them to be more transparent and report their carbon emissions in order to preserve their reputation and the confidence of their stakeholders.

H3: Institutional ownership affects carbon emission disclosure

The Effect of Environmental Performance on Carbon Emission Disclosure

Companies with outstanding environmental performance, according to Clarkson et al. (2008), have a proactive environmental approach. By making voluntary environmental disclosures, it provides information to investors and other stakeholders. The company's PROPER rating replicates environmental performance. A business that takes part in the PROPER program and obtains a high rating will undoubtedly be transparent about its wider environmental duty. This is due to the company's increased focus on the environment, which it will highlight as a success in its financial reports, as well as its care for the local community and the environment. Businesses attempt to make voluntary disclosures about their performance that are difficult for businesses with subpar environmental performance to mimic (Apriliana et al., 2019). Companies with a pro-active attitude toward the environment, as shown by PROPER ratings, have an incentive to voluntarily disclose information about carbon emissions to investors and other external parties in order to demonstrate the success of the environmental strategy employed (Selviana and Ratmono, 2019).

According to research by Prasetya and Yulianto (2018) and Deantari (2019), businesses with a good environmental performance title (PROPER) tend to uphold their environmental responsibilities, one of which is by disclosing carbon emissions.

H4: Environment performance affects carbon emission disclosure

Research Framework

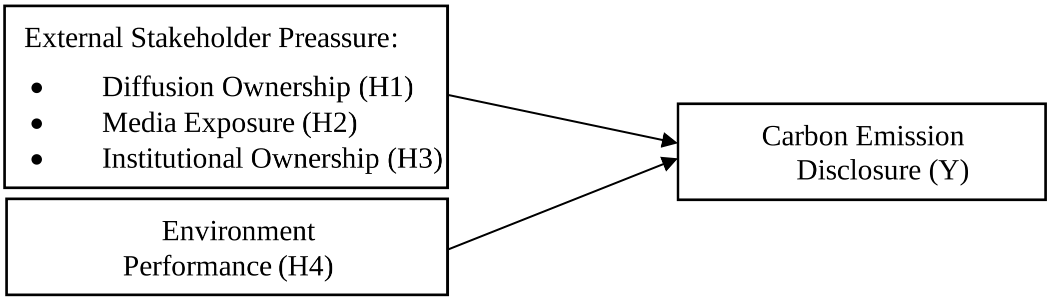

Figure 1. Research Framework

METHODS

Research Design

This research is explanatory and aims to elucidate phenomena that occur in the empirical world. Specifically, it seeks to explain the causal relationship between the influence of company size, financial performance, and corporate governance on sustainability reporting disclosures. Using a technique of purposive sampling, the research population consists of all corporations registered with the Asia Sustainability Reporting Rating (ASRRAT) in Indonesia between 2019 and 2021.

The Asia Sustainability Reporting Rating (ASRRAT) for 2019–2021 registered companies' sustainability reports and annual reports served as the study's source of data. The websites www.ncsr-id.org, www.idx.co.id, and firm websites registered as the Asia Sustainability Reporting Rating (ASRRAT) in Indonesia for the 2019–2021 period were used as the data sources in this study.

Variabel Measurment

Table 1. Variable Measurment

Variabel	Pengukuran
Carbon Emission Disclosure	$\frac{\sum Disclosure\ Index}{\text{Max. Total Items}}$
Diffusion Ownership	$\frac{\text{Shares owned by public}}{\text{Number of Shares Outstanding}}$
Media Exposure	A dummy variable is used to quantify media exposure; it has a value of 1 for companies who reveal more information about carbon emissions on their website as well as other disclosure media like newspapers and other media, and a value of 0 for the opposite.
Institutional Ownership	$\frac{\text{Shares owned by institutional}}{\text{Number of Shares Outstanding}}$

Environment Performance	Company PROPER Rating Gold: 5, Green: 4, Blue: 3, Red: 2 dan Black: 1.

This study used the classic assumption test, paired t tests, and multiple regression analysis to look at the data. In this work, this is the multiple linear regression equation that was used:

$$\mathbf{CDi = \alpha + \beta 1\ DIFF + \beta 2\ MEDX + \beta 3\ INST + \beta 4\ EP + e}$$

Information:

α : Constanta
β : Regression Coefficient
CDi : Carbon Emission Disclosure
DIFF : Diffusion Ownership
MEDX: Media Exposure
INST : Institutional Ownership
EP : Environment Performance
e : error

RESULTS AND DISCUSSION

Statistic Descriptive

Based on the table below, it can be seen that there were 78 companies that passed the sample criteria used as research samples. The table below shows that the disclosure of carbon emissions in companies registered with the Asia Sustainability Reporting Rating (ASRRAT) has an average of 8.859, with the lowest score of 5 and the highest score of 16. This shows that there are still companies that have not disclosed their carbon emissions optimally.

Table 2. Statistic Descriptive

Variable	N	Min.	Max.	Mean	Std. Dev.
Diffusion Ownership	78	5,00	16,00	8,859	2,277
Media Exposure	78	0,00	0,50	0,128	0,151
Institutional Ownership	78	0,00	1,00	0,512	0,503
Environment Performance	78	0,00	5,60	0,503	0,826
Valid N (listwise)	78				

Public ownership (DIFF) has the lowest value of 0.00 and the highest value of 0.50, with 0.128. This shows that not many companies that are the subject of research have shares owned by the public. Media Exposure (MEDX) uses a dummy measurement so that the lowest value is 0.00 and the highest value is 1.00 with a 0.128. Furthermore, institutional ownership (INST) has the lowest value of 0.00 and the highest value of 5.60, with an average value of 0.503. This value indicates that not many research objects are owned by institutions. Finally, environmental performance has the lowest score of 3 and the highest score of 5, with an average of 4.538. This shows that companies listed on ASRRAT have a high PROPER rating, which is dominated by rating 5 (GOLD).

Assumption Clasic Test

Table 3. Classic Assumption Test

Variable	Tolerance	VIF	Sig. (Spearman Rho)
Diffusion Ownership	0,865	1,156	0,601
Media Exposure	0,926	1,080	0,913
Institutional Ownership	0,990	1,010	0,932
Environment Performance	0,904	1,106	0,841
Monte Carlo Sig. 2 Tailed	0,299		
Durbin Watson	1,554		

The results of testing the classical assumptions are presented in the table above. Based on the results of the normality test using the Monte Carlo method, a significance value of 0.299 (> 0.05) was obtained, which indicated that the variables used in this study were normally distributed. Then, based on the results of the multicollinearity test in the table above, it shows that all tolerance and VIF values for each variable are tolerance > 0.10 and VIF < 10, which means that there is no multicollinearity in this study. Based on the results of the heteroscedasticity test using the Spearman method, it shows that the significance of the diffusion ownership variable is 0.601, media exposure is 0.913, institutional ownership is 0.932, and environmental performance is 0.841. From these values, it can be concluded that all the significance values for each variable are greater than 0.05, which means that the data analysis in this study did not exhibit heteroscedasticity. Then in this study, the autocorrelation test was carried out; the criteria used were the same as those used by Santoso (2012), which was said to have passed this test when Durbin Watson's value was > -2 and <2.

Hypothesis Test Results

Table 4. Hypothesis Results

Variable	β	Sig.	Conclusion
(Constant)	5,413	0,007	-
Diffusion Ownership	0,189	0,912	H1: Rejected
Media Exposure	2,628	0,000	H2: Accepted
Institutional Ownership	0,501	0,095	H3: Rejected
Environment Performance	-0,219	0,602	H4: Rejected
Adj. R Square	0,245		
F Test	0,000		

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Based on the results of data processing using SPSS, the results of the hypothesis testing are summarized in the table above. The results of the analysis show that the F Test is considered significant (F<0.05), which explains that the model is fit or accepted. The results in the table above then obtained the regression model as follows:

CDI: 5,413DIFF + 1,197MEDX + 2,197INST + 0,361EP + 0,437 + e

The results of the hypothesis testing presented in the previous table the following discussion is obtained:

Diffusion Ownership and Carbon Emission Disclosure

Based on the results of the hypothesis testing presented in the previous table, the variable diffusion ownership (DIFF) or public ownership shows a value of B: 1.197 and Sig 0.458 (greater than 0.05), which means H1: Rejected. Based on the results of the analysis, it can be concluded that the greater the share ownership owned by the community, the wider the disclosure of carbon emissions, but even so, this variable does not affect the extent of disclosure of carbon emissions. Shareholders who come from the public or the general public tend to be small in the companies that are the object of this research, as shown in the descriptive statistics table, where the ratio of shares owned by the public is not more than 5%. Even though the legitimacy theory states that companies try to align the company's social values with the community environment, in fact, the lack of shareholders from the community still cannot provide sufficient pressure and supervision to management so that they disclose carbon emissions more broadly. The results of this study are in line with research (Wartina & Prima, 2018) and Evandini & Darsono (2014).

Media Exposure and Carbon Emission Disclosure

Based on the results of the hypothesis test, the media exposure variable obtained a beta coefficient value of 2.197 and a sig value of 0.000 (smaller than 0.05), which means H2: Accepted. From these results, it can be concluded that media exposure (MEDX) has a positive effect on the disclosure of carbon emissions. One of the interested parties is the media, which plays a role in shaping the company's reputation and can affect the level of corporate disclosure. The rapid development of technology and the internet has caused media exposure to have a fairly high impact on business reputation. (Dawkins & Fraas, 2011). Legitimacy theory explains that companies will try to continue to align company activities with social and environmental responsibility. With the greater pressure exerted by the media, management and companies will certainly be encouraged to disclose their social responsibility, including disclosure of carbon emissions. The results of this study are in line with the results of research conducted by Herdiawan & Dewi (2020) and Ulfa & Ermaya (2019).

Institutional Ownership and Carbon Emission Disclosure

Based on the results of the hypothesis testing, it is shown that the Institutional Ownership (INST) variable has a Beta coefficient value of 0.361 and a sig. of 0.193 (above

0.05), which means H3: Rejected. From the beta coefficient, it can be concluded that the greater the institutional ownership, the wider the disclosure of carbon emissions. In this study, institutional ownership tends to have a larger ratio than the shares owned by the public, but there is a possibility that institutional share ownership is only limited to investment and does not carry out deeper supervision of disclosure of social responsibility, especially disclosure of carbon emissions, so that institutional parties do not exercise control over companies and hand over all supervision and control of company activities to company management in terms of controlling carbon emission disclosure (Fransisca, 2020). The results of this study are in line with Mustar (2020) and Fransisca (2020) research.

Environmental Performance and Carbon Emission Disclosure

Based on the results of the hypothesis test, it is shown that the environmental performance (EP) variable has a Beta coefficient value of 0.437 and significance of 0.293 (above 0.05), which means H4: Rejected. From the beta coefficient, it can be concluded that the higher the environmental performance, the wider the disclosure of carbon emissions. Environmental performance in this study is measured by how high a company's PROPER rating is; the assumption is that the better the PROPER rating, the wider it will be in expressing social responsibility. However, in this study, the environmental performance proxied by the PROPER rating had no significant effect on the disclosure of carbon emissions. One of the reasons why this PROPER rating has no effect is, first, because the PROPER rating is not only focused on disclosing carbon emissions but also on broader social responsibility. Second, Indonesia's condition, where the disclosure of carbon emissions is still voluntary and relatively new. The results of this study are in line with the research of Akhiroh & Kiswanto (2016), Cahya (2016), and Amaliyah & Sholikhah (2019), where environmental performance does not have a significant effect on carbon emission disclosure.

CONCLUSION

This study aims to examine the influence of external stakeholder pressure, which consists of diffusion ownership, media exposure, and institutional ownership, and the effect of environmental performance on carbon emission disclosure. The research results show the following:

1. The Diffusion Ownership variable does not affect the disclosure of carbon emissions; it has a significance value of 0.458.
2. The Media Exposure variable has a significance level of 0.000, indicating that it has an impact on the disclosure of carbon emissions.
3. With a significance value of 0.193, the Institutional Ownership variable has no bearing on the disclosure of carbon emissions.
4. With a significance value of 0.293, the Diffusion Ownership variable has no bearing on the disclosure of carbon emissions.

The limitation of this research is that the research object is limited to companies registered with the Asia Sustainability Reporting Rating (ASRRAT), which incidentally received the best sustainability reporting award, so it can be said that the scope is still quite

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narrow. The variables in this study are still not optimal in representing the factors that influence the disclosure of carbon emissions by showing the value of adj. R Square, which is relatively small, namely 0.245.

The suggestions for future research are that the object of research should cover a wider area. Then there is research that tries to compare the disclosure of social responsibility in Indonesia with other developing countries. So that it becomes additional literacy, especially in research related to environmental performance and corporate social responsibility reporting.

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