

The Impact of Carbon Emission Disclosure, Green Investment, and Environmental Performance on Company value with Media Exposure as a Moderating Variable

M Malik Mubarok¹, Imron Rosyadi²

¹ Management, Faculty of Economic and Business, Universitas Muhammadiyah Surakarta

² Management, Faculty of Economic and Business, Universitas Muhammadiyah Surakarta

Corresponding author: b100214455@student.ums.ac.id

Abstract

The objective of this study is to examine the impact of carbon emission disclosure, green investment, and environmental performance on firm value, and to evaluate the role of media exposure as a moderating variable. The research method employed is quantitative, with data analysis conducted using Smart6 PLS. The sample comprises 175 data points from seven companies over the period 2019-2023. The findings of the study demonstrate that there is a statistically significant negative relationship between carbon emission disclosure and firm value. This implies that a high level of emission disclosure can lead to a reduction in the market value of a company. The results indicate that green investment does not have a significant effect on firm value. This suggests that the impact of green investment on firm value may be indirect or insignificant. In contrast, environmental performance demonstrates a significant positive effect on firm value, indicating that an increase in environmental performance is correlated with an increase in market value. Furthermore, the findings revealed that media exposure did not reinforce the favourable impact of environmental performance but, conversely, served to exacerbate the detrimental effect of carbon emission disclosure. The results of this study underscore the necessity of incorporating public and media perceptions into a company's sustainability strategy. Overall, this study offers comprehensive insights into the manner in which environmental sustainability factors influence firm value, both directly and through the role of the media.

Keywords: Carbon Emission Disclosure, Company Value, Green Investment, Environmental Performance, Media Exposure

1. Introduction Section

Public trust has a significant impact on stock trading activities as well as stock performance, which in turn can affect the value of a company. The industrial revolution brought positive impacts such as cost efficiency and increased revenue. However, the industrial revolution also caused negative impacts such as reduced availability of natural resources and environmental damage, including water and air pollution. This shows that the economic system and natural resource management are interrelated [1]. Uncontrolled industrial growth can lead to an increase in carbon and greenhouse gas retention indefinitely. This is due to industrial activities encroaching into forests and excessive use of fossil energy [16].

The increase in temperature on the earth's surface has received significant attention along with the issue of global warming caused by increased greenhouse gas emissions, thus causing climate change. Climate change is one of the urgent crises of this era. Companies are becoming aware of the risks posed by carbon emissions and are trying to reduce greenhouse gas emissions such as carbon dioxide, which pose an existential threat to humans and natural systems due to increased extreme weather events and changing climate patterns [15]. This effort can be shown to the public through the disclosure of carbon emissions in the company's annual report and sustainability report, in accordance with the provisions of Presidential Regulation Number 61 of 2011 Article 4. In accordance with the Financial Accounting Standards Statement (PSAK) No. 1, companies are advised to disclose their responsibilities related to social and environmental issues.

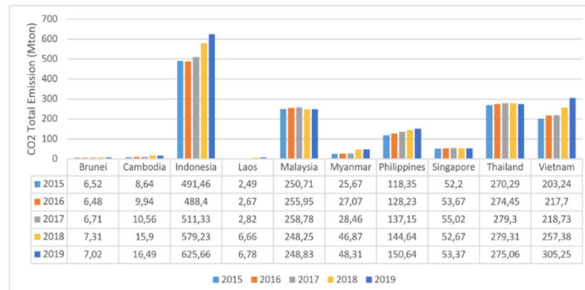


Fig 1. Trend Report about CO₂ in Southeast Asia (2015-2019)

Climate change is a global challenge triggered by an increase in greenhouse gas (GHG) emissions, especially carbon dioxide (CO₂). Most of these emissions come from the burning of fossil fuels in the industrial, transportation, and energy sectors. Indonesia is one of the countries with the largest carbon emissions in the world, occupying the sixth position with an annual emission level of 1.981 billion tons. In Southeast Asia, Indonesia is the largest emitter of carbon emissions (see figure 1). This situation is a serious concern considering the increasingly felt impacts of climate change, such as rising global temperatures, extreme weather, and rising sea levels, which threaten the sustainability of human life and the economy [13].

In response to the increasingly pressing challenge of climate change, companies around the world are starting to take concrete steps to reduce the impact of carbon emissions. One important step is carbon emission disclosure, which aims to increase the transparency of companies in their operations related to the environment. Carbon emission disclosure is considered a voluntary act taken by a company to increase its credibility, especially if the information provides a positive picture of the company. This voluntary disclosure is defined as a disclosure made by a company outside of its obligations regulated by regulatory bodies and accounting standards, or as a disclosure that exceeds that which is formally required [17]. In the era of globalization that is increasingly concerned about sustainability, corporate responsibility for the environment is one of the important elements in the assessment of corporate performance.

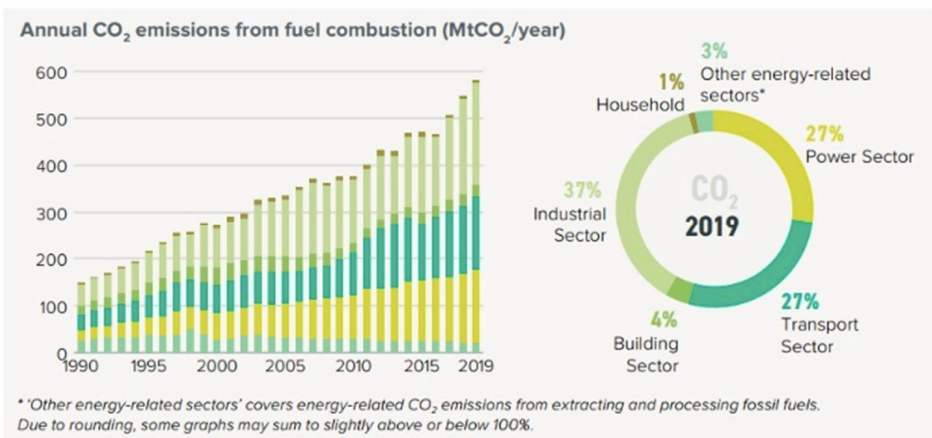


Fig. 2. Energy-related CO₂ emissions by sector

Many industrial sectors contribute significantly to carbon dioxide (CO₂) emissions which make up a large part of total greenhouse gas (GHG) emissions. Sectors such as transportation, households, services, agriculture, and electricity play a major role in these emissions. In Indonesia, since 1990, CO₂ emissions have continued to increase, peaking in 2019 with 581 million tons of CO₂. Of these, the industrial sector is the largest contributor with 37%, followed by transportation and power and heat plants, each at 27%. Emissions from the industrial sector include direct emissions from energy processes and production, as well as indirect emissions from electricity and heat production for industrial needs [13].

Good environmental performance is often associated with increased company value, especially in markets that are increasingly concerned with sustainability issues. Companies that proactively manage their environmental impact tend to gain higher trust from stakeholders, which ultimately positively impacts their market value. Research that explores the relationship between environmental and financial performance shows that carbon reduction initiatives by companies can have a positive impact on financial performance. Carbon emission disclosures, for example, have been shown to improve

a company's reputation, reduce carbon-related risks, and ultimately, improve a company's financial performance. Even so, there is debate about the impact of these disclosures, with some studies showing negative effects on investment returns and market value added [15].

In addition to disclosing carbon emissions in annual reports, many companies are currently doing *green investment* or green investment. Green investment is an effort by the company to participate in protecting the environment and overcoming environmental problems by providing important procedures both inside and outside the company [9]. This effort is made to improve the company's environmental performance, where good corporate environmental management in the implementation of environmental aspect control can improve its environmental performance [14]. Companies that care about the environment will usually try to reduce negative impacts such as waste management and the use of pollution filters as well as other activities related to environmental aspects.

This research will develop from previous researchers on carbon emission disclosure, namely the journal Florencia and Handoko [7] entitled "Test of the Influence of Profitability, Leverage, Media Exposure on Carbon Emission Disclosure with Moderation". However, this study will use a different dependent variable, namely the value of the company with the addition of moderation variables *media exposure*. *Media exposure* is a factor that affects carbon emission disclosure, because companies need to monitor the media which will determine the value and reputation of the company in the eyes of the public [11]. Research from Ramadhani and Astuti [14] also used independent variables *green investment* and the disclosure of carbon emissions as a dependent variable, and *media exposure* as a moderation variable. The results showed that *green investment* has no significant effect on carbon emission disclosure, but shows a significant effect when moderated by *media exposure*.

In this context, it is important to review how carbon emissions disclosure has the potential to affect public and investor perceptions, which can ultimately have a direct impact on a company's value. Meanwhile, green investment is one of the main strategies for companies that want to strengthen their environmental performance. However, the impact of green investment on company value is not always immediately apparent and requires a more in-depth evaluation

This study will use a dependent variable of company value, where in previous research carbon emission disclosure was used as a dependent variable. Then the independent variable that will be used is the disclosure of carbon emissions, *green investment*, and environmental performance moderated by *media exposure*. The difference between this study and the previous study is the use of a company value dependent variable, where the results of the study will later reveal whether companies that implement the ESG concept can increase their company value. By understanding the relationship between carbon emission disclosure, green investment, environmental performance, and media exposure to company value, this research is expected to be the basis for the development of better policies to increase company value in a sustainable manner.

2 Literature Review and Hypothesis Model

To examine the relationship between carbon emission disclosures, *green investment*, environmental performance, and company value, this study uses a quantitative method processed by data analysis through Smart PLS. This method was chosen because it allows to evaluate the influence of moderation variables such as media exposure more accurately.

This study adopts a quantitative approach by using secondary data consisting of the company's annual report. The population that the study focuses on is 13 companies from the *capital market*, *impact investment*, and *Project Financing* which is listed on the Indonesia Stock Exchange (IDX) and has won the Environmental, Social, and Corporate Governance (ESG) Award 2023 organized by the Biodiversity Foundation (KEHATI). KEHATI itself has been collaborating with the IDX since 2009 and is used as a reference for ESG-based investment in the country's capital market. The sample that will be used is 6 companies that won ESG awards with 5 indicators of research variables from the 2019-2023 period (5 years), namely 175 research data. Data collected using *non-probability* with the approach *purposive sampling*, that uses the criteria that the company already has ESG. The companies that will be selected in this study are as follows:

1. PT Bank Rakyat Indonesia (Persero) Tbk. (BBRI)
2. PT Unilever Indonesia Tbk. (UNVR)
3. PT BNP Paribas Asset Management
4. PT Batavia Prosperindo Asset Management
5. PWC Indonesia
6. PT Bank Mandiri (Persero) Tbk.
7. PT Sarana Multi Infrastruktur

The framework of this research was taken and inspired by the journal Florencia and Handoko [7] entitled "Test of the Influence of Profitability, Leverage, Media Exposure on Carbon Emission Disclosure with Moderation". The following is the research framework used in this study:

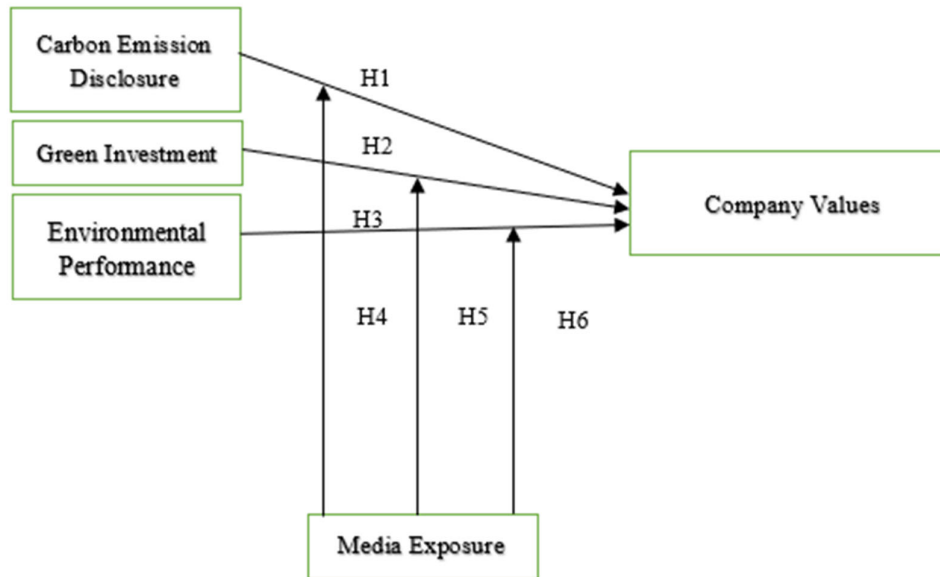


Fig. 3. Research Outline

Information:

H1 : Carbon emission disclosure (X1) has a significant negative influence on the Company's value

H2 : Green investment (X2) has a significant positive influence on the Company's value

H3 : Environmental performance (X3) has a significant positive influence on the Company's value

H4 : Media exposure (Z) moderates the effect of carbon emission disclosure on the Company's value positively and significantly

H5 : Media exposure (Z) moderates the influence of green investment on the Company's value positively and significantly

H6 : Media exposure (Z) moderates the influence of environmental performance on the Company's value positively and significantly

This study proposes several hypotheses that are based on relevant theories as well as previous research. The first hypothesis (H1) states that carbon emission disclosure (X1) has a significant negative influence on the company's value. Stakeholder theory and *signaling theory* explained that information related to environmental impacts can cause investors' negative perception of the company's value [18]. Research by Florencia and Handoko [7] supports this hypothesis by finding that carbon emission disclosure affects public and market perceptions.

The second hypothesis (H2) states that green investment (X2) has a significant positive influence on the value of the company. Based on the theory of resource-based view, the company's investment in green initiatives increases value through environmentally friendly innovation and resource efficiency. Previous research has shown that green investment can attract the attention of investors who care about ESG (Environmental, Social, and Governance) [7].

The third hypothesis (H3) states that environmental performance (X3) has a significant positive influence on the company's value. Companies that have good environmental performance gain support and trust from the community and stakeholders, which ultimately increases the company's value [3].

The fourth hypothesis (H4) emphasizes that media exposure (Z) moderates the effect of carbon emission disclosure on company value positively and significantly. Media exposure is able to strengthen the influence of carbon emission disclosure by increasing public attention to this issue, which then affects market reactions [2].

The fifth hypothesis (H5) argues that media exposure (Z) moderates the influence of green investment on company value positively and significantly. Positive media exposure to green investments can strengthen the link between those investments and the increase in company value, by highlighting the company's commitment to environmental sustainability and attracting investors' attention. Finally, the sixth hypothesis (H6) states that media exposure (Z) moderates the influence of environmental performance on company value positively and significantly. Media coverage of a company's environmental performance can enhance a company's reputation as a responsible entity, ultimately increasing public trust and company value [5].

This research model will use multiple linear regression analysis techniques. In this case, independent variables such as carbon emission disclosure, green investment, and environmental performance will be tested against the dependent variable, namely the company's value. *Media exposure*, as a moderation variable, will moderate the relationship between independent and dependent variables. Thus, multiple linear regression techniques will be used to identify the influence of independent variables on dependent variables, while moderation analysis will show the extent to which media exposure affects the relationship.

According to Ghozali [8], Multiple linear regression is a statistical technique used to analyze the relationship between one dependent variable and two or more independent variables. This method is an extension of simple linear regression, which involves only one independent variable : *media exposure*.

3. Metodology

Measurement of Carbon Emission Disclosure

Carbon emission disclosure variables are measured using *Carbon Disclosure Checklist* (CED) developed by the Carbon Disclosure Project (CDP). A score of 1 will be given to the five categories if it is proven that there is a carbon emission disclosure in the company's annual report or sustainability report. Conversely, if there is no evidence of disclosure, then a score of 0 will be awarded. Here is a list of CEDs for carbon emission disclosure:

It	Category	Items	Information	
1	Climate change: <i>risk and opportunities</i>)	CC1	Assessment/description of risks (regulatory, physical or general) related to climate change and actions taken or to be taken to manage risks	
2		CC2	Assessment/description of current (and future) financial implications, business implications, and opportunities for climate change	
3	Greenhouse gas emissions (GHG / <i>Greenhouse Gas</i>)	GHG1	A description of the methodology used to calculate GHG emissions (e.g. GHG or ISO protocols)	
4		GHG2	There is an external verification of the quantity of GHG emissions	
5		GHG3	Total suction GRK – metric tons of absorption CO2-e	
6		GHG4	Direct GHG emissions disclosure Scope 1 and 2, or scope 3	
7		GHG5	GHG emissions disclosure by source (e.g. coal, electricity, etc.)	
8		GHG6	GHG emissions disclosure by facility level or segment	
9		GHG7	Comparison of GHG emissions with previous years	
10	Energy <i>Consumption</i>)	EC1	Total energy consumed (e.g. tera-joules or peta-joules)	
11		Reduction of gas emissions	EC2	Quantification of energy used from renewable sources
12			EC3	Disclosure by type, facility, or segment
13	greenhouse and cost	RC1	Details of plan or strategies to reduce GHG emissions	

14		RC2	Specification of GHG emission reduction target level and target year
15	(RC/ <i>Reduction and cost</i>)	RC3	Reduction in emissions and associated costs or savings achieved to date as a result of the reduction plan
16		RC4	Future emission costs taken into account in capex planning
17	Carbon emissions	ACC1	Indication of which council committee (or other executive body) has overall responsibility for actions related to climate change
18	accountability (ACC/ <i>Carbon emission Accountability</i>)	ACC2	A description of the mechanism by which the board (or other executive body) reviews the company's progress related to climate change

The checklist of 18 items will be calculated using the formula:

$$CED = \frac{\text{Total skor perusahaan}}{\text{Skor maksimum}} \times 100\%$$

Information:

CED: *Carbon Emission Disclosure*

Green Investment Measurement

The research conducted by Syabilla et al., [19] in their journal measures green investment using the PROPER rating. The PROPER rating is an award given by the Ministry of Environment (MoEF) to companies that seriously pay attention to environmental management.

The Ministry of Environment and Forestry classifies the PROPER rating into five categories, namely Gold, Green, Blue, Red, and Black. This categorization is designed to facilitate the understanding of investors and the general public regarding the PROPER criteria applied to companies. Based on the Regulation of the Minister of State for the Environment [20], the definition of each PROPER level is as follows:

1. Gold Rating: This category is given to companies that consistently demonstrate excellence in environmental management (environmental excellence) during the production and/or service process, and implement ethical and socially responsible business practices.
2. Green Rating: This category is given to companies that implement environmental management that goes beyond compliance through the implementation of environmental management systems, efficient use of resources through 4R (Reduce, Reuse, Recycle, Recovery), and social responsibility (CSR/Comdev) practices.
3. Blue Rating: This category is given to companies that meet their environmental management obligations in accordance with applicable provisions and/or laws and regulations.
4. Red Rating: This category is given to companies whose environmental management efforts have not met the requirements set out in laws and regulations and are undergoing administrative sanctions.
5. Black Rating: This category is given to companies that deliberately commit acts or omissions that result in pollution and/or environmental damage and violate applicable laws and regulations, or that do not implement administrative sanctions.

The measurement is carried out by assigning a score from 1 to 5 for each PROPER award rating based on the color received by the company. The score is as follows:

- Score 1 = Black Rank
- Score 2 = Red Rank
- Score 3 = Blue Rank
- Score 4 = Green Rank
- Score 5 = Gold Rating

Environmental Performance Measurement

The environmental performance variables used in this study were measured using dummy variables. Companies that have ISO 14001 certification are given a value of 1, while companies that do not have such certification are given a value of 0.

Media Exposure Measurement

The media exposure variable in this study was also measured using a dummy variable, where a value of 1 is given to companies that are known to disclose information related to carbon emissions disclosure through online media that has been published by external media, and a value of 0 for companies that do not disclose such information.

$$ME = \frac{\text{Jumlah Skor}}{\text{Total Skor Maksimal}}$$

ME = *Media Exposure*

Measurement of Company Value

In this study, the value of a company is measured using Price Book Value (PBV), which is a comparison between the book value of the stock and its market price. The book value per share is calculated by dividing the equity of common shares by the number of common shares outstanding. The formula for calculating the value of a company is as follows:

$$PBV = \frac{\text{Harga per lembar saham}}{\text{Nilai buku per lembar saham}}$$

4. Result And Discussions

This study uses 7 companies as research subjects and uses 175 research samples obtained from the Company's secondary data during the period 2019-2023 (5 years). The following is a table of descriptive statistical results of the research:

Table 1. Descriptive Statistical Test Results

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Carbon Emission Disclosure	35	0.778	0.940	0.841	0.048
Green Investment	35	3.000	4.000	3.200	0.400
Environmental Performance	35	0.000	1.000	0.286	0.452
Media Exposure	35	0.000	1.000	0.829	0.377
Company Values	35	0.000	1.000	0.457	0.498

Based on the results of descriptive statistics, the Carbon Emission Disclosure variable has an average of 0.841, which means that in general, the companies in this study sample tend to have a high level of carbon emission disclosure. Minimum and maximum values ranging from 0.778 to 0.940 indicate that there is little variation in carbon emission disclosures among these companies, which is also reflected in the relatively low standard deviation of 0.048.

For the Green Investment variable, an average of 3,200 indicates that companies generally make green investments at a fairly high level, close to the maximum limit on the scale used (minimum value of 3,000 and maximum value of 4,000). A standard deviation of 0.400 indicates a variation in green investment practices among the companies studied.

The Environmental Performance variable has a lower mean, which is 0.286, which indicates that the environmental performance of most companies in this sample tends to be low or not very significant. This is supported by a standard deviation of 0.452 which indicates considerable variation among these companies, with some of them having excellent environmental performance (maximum value of 1,000), while others are not (minimum value of 0.000).

For the Media Exposure variable, an average value of 0.829 indicates that most of the companies in the sample have fairly high media exposure. However, a standard deviation of 0.377 indicates that there is considerable significant variation in media exposure among these companies, with some having very high exposures (maximum value of 1,000), while others have almost no exposure at all (minimum value of 0.000).

Finally, the Company Value has an average of 0.457, which indicates that in general the value of the companies in this sample is not very high, with considerable variation (standard deviation of 0.498). The companies in this sample have a value range from 0,000 to 1,000, which shows a significant difference in the value of the companies. Overall, these descriptive statistics show significant variations in carbon emission disclosures, green investment, environmental performance, media exposure, and company value among the companies studied. This needs to be considered in further analysis and when drawing conclusions from this data.

Table 2. R-Square Test Results

	And
R-Square	0,688
R-Square Adjusted	0,646
Durbin-Watson Test	1,656

The results of the R-Square test show how much variation in the dependent variable **of Company Value (Y)** can be explained by independent variables in the model. In this case, an R-Square value of 0.688 indicates that 68.8% of the variation in **Company Value** can be explained by the independent variables used in this model. This is a fairly high value, indicating that the model has good predictive ability.

In addition, the R-Square Adjusted value of 0.646 shows an adjustment to the number of independent variables used. This value is slightly lower than regular R-Square, which is natural because R-Square Adjusted takes into account the complexity of the model and provides a more conservative estimate of how well the model accounts for variability in Company Value. However, with an R-Square Adjusted value of 64.6%, this model still shows a strong level of explanation.

The Durbin-Watson test with a value of 1.656 was used to detect the presence of autocorrelation in the residuals of the regression model. A value close to 2 indicates that there are no significant autocorrelation issues. In this case, the value of 1.656 is close to 2, which means that there is no strong indication of autocorrelation in the model, so the regression test results can be considered valid and not affected by autocorrelation that could affect the interpretation of the regression results.

Table 3. VIF Test

	BRIGHT
X1	1,349
X2	1,235
X3	1,165
With	1,547

In general, a VIF value below 5 indicates that there are no serious problems related to multicollinearity in this model. Low multicollinearity means that the independent variables in the model do not have a high linear relationship with each other, so the estimation of the regression coefficient will be more stable and reliable. In other words, these VIF values indicate that the variables in the model do not experience significant multicollinearity problems.

Table 4. Results of Moderation Regression Analysis

Variable	Coefficin (β)	Standardized Coefficients	HERSELF	T- Value	P- Value	Significance
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X1 (Carbon Emission Disclosure)	-2,550	-0,245	1,235	2,065	0,047	Signifikan
X2 (Green Investment)	-0,016	-0,013	0,141	0,111	0,912	Insignifikan
X3 (Environmental Performance)	0,890	0,807	0,121	7,333	0,000	Signifikan
Z (Media Exposure)	-0,418	-0,316	0,168	2,494	0,018	Signifikan

Based on the results of the research that has been carried out, a hypothesis assessment will be carried out with model equation 1. ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \epsilon$) and model 2. ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_4X_1 * Z + \beta_5X_2 * Z + \dots$), So the result is as follows:

1. **H1: Carbon emission disclosure (X1) has a significant negative influence on a company's value.**

Carbon emission disclosure (X1) does show a significant negative influence on the company's value. This means that the higher the carbon emission disclosure, the lower the company's value. This is in accordance with the H1 hypothesis.

2. **H2: Green Investment (X2) has a significant positive influence on the company's value.**

Variable X2 does not show a significant influence on the company's value. Therefore, the H2 hypothesis was rejected because it did not match the results of the study.

3. **H3: Environmental performance (X3) has a significant positive influence on the company's value.**

Environmental performance (X3) has been shown to have a significant positive influence on the company's value. This shows that improved environmental performance correlates with increased company value, so the H3 hypothesis is accepted.

4. **H4: Media Exposure (Z) Moderates the Effect of Carbon Emission Disclosure on Company Value in a Positive and Significant Manner.**

Media exposure (Z) has a significant negative influence on a company's value, which means that the higher the media exposure, the lower the company's value. When interacted with carbon emission disclosure (X1), this negative impact is further amplified. So, instead of weakening the negative influence, media exposure actually exacerbates the effect of carbon emission disclosure. Therefore, the H4 hypothesis is rejected.

5. **H5: Media Exposure (Z) Moderates the Influence of Green Investment on Company Value in a Positive and Significant Manner.**

Research Results: Since the influence of green investment (X2) on company value is not significant, moderation by media exposure (Z) also does not show a significant effect. This means that media exposure is not able to change or strengthen the influence of green investment on the company's value. Thus, the H5 hypothesis was rejected.

6. **H6: Media Exposure (Z) Moderates the Influence of Environmental Performance (X3) on Company Value in a Positive and Significant Manner.**

Research Results: Environmental performance (X3) has a significant positive influence on the company's value, but the influence of media exposure (Z) is negative. The results of the interaction between Z and X3 did not show any significant or positive moderation. Thus, the H6 hypothesis is also unacceptable because media exposure does not strengthen the relationship between environmental performance and company value.

From the results of this study, the H1 and H3 hypotheses are accepted because the results are in accordance with the predictions. However, the H2, H4, H5, and H6 hypotheses were rejected because they did not match the empirical results found. This study examines various factors that affect a company's value, including carbon emission disclosure, green investment, environmental performance, and media exposure moderation. The results of this study provide valuable insights into how different aspects of sustainability and the environment can impact a company's value, both directly and through media influence.

The results of these statistics highlight that carbon emission disclosures tend to be high with little variation between companies, while green investment shows greater variation, but with a fairly high average. Environmental performance, on the other hand, had a low mean, suggesting that most of the companies in the sample had less significant environmental performance.

The results of the R-square test showed that 68.8% of the variation in Company Value could be explained by independent variables in the model, indicating strong predictive power. In addition, the Durbin-Watson test showed no

significant autocorrelation problems, while the results of the VIF test showed the absence of serious multicollinearity among the variables in the model.

In moderation regression analysis, carbon emission disclosure (X1) had a significant negative influence on the value of the company, supporting the first hypothesis (H1). However, green investment (X2) does not have a significant influence on the value of the company, so the second hypothesis (H2) is rejected. Environmental performance (X3) was proven to have a significant positive influence on the company's value, so the third hypothesis (H3) was accepted.

For the moderation effect, media exposure (Z) actually strengthens the negative influence of carbon emission disclosure on the value of companies, which is contrary to the fourth hypothesis (H4). The moderation of media exposure to green investment is not significant, so the fifth hypothesis (H5) is also rejected. Finally, although environmental performance has a significant positive influence on a company's value, media exposure does not moderate the relationship, so the sixth hypothesis (H6) is also rejected.

First, the study found that carbon emissions disclosure has a significant negative influence on a company's value. This means that the higher the carbon emission disclosure by the company, the value of the company tends to decrease. This can be caused by the negative perception of stakeholders towards high carbon emissions, which can create market pressure and affect the company's stock price. These findings are in line with the research of Downar et al., [6], which also found that carbon emission disclosure can be negatively correlated with a company's value because it can depress a company's value to comply with regulations, especially because *media exposure* can amplify these negative impacts, directing the attention of the public and investors to the potential environmental risks faced by the company.

Furthermore, this study examines the influence of green investment on company value, but does not find any significant influence. Although green investment is often promoted as a strategy to improve a company's image and create long-term value, the results of this study show that in practice, the impact of green investment on a company's value may not always be significant. The impact of green investment on company value is not always significant, as revealed in several studies. Green investment can increase the value of a company under certain conditions, such as under strict environmental regulatory supervision, but in other situations, this investment may not have an immediate positive impact due to the perception of greenwashing or the cost is too high compared to the benefits [9]. In contrast to other studies, such as those conducted by An & Madni [3] on companies in China, it was found that the impact of green investment on a company's financial performance can vary depending on the context, such as regulatory intensity and investor perception. In some cases, investors may be skeptical of green investment if it is considered a greenwashing strategy, or if the financial benefits are unclear compared to the costs incurred.

The study also found that environmental performance has a significant positive influence on company value. This shows that companies that actively improve their environmental performance tend to get added value from the market. Improved environmental performance can reduce operational risks, improve efficiency, and attract investors who are aware of the importance of sustainability. Research by Makni et al. [12] and Barnea & Rubin [4] supports these findings, where good social and environmental performance can contribute to better financial performance, although there is still debate about whether this relationship is due to improved reputation or reduced costs.

However, when media exposure was tested as a moderation variable, the results showed that media exposure did not necessarily reinforce the positive impact of environmental performance on company value. In some cases, negative exposure from the media can actually reduce the positive impact. This highlights the importance of a prudent communication strategy for companies in promoting their environmental achievements, given that inappropriate media exposure can damage a company's reputation and reduce the benefits of improved environmental performance.

Overall, this study provides empirical evidence that supports the importance of environmental factors in determining a company's value, while showing that the impact of a company's sustainability efforts can be greatly influenced by public perception and the media. It emphasizes the need for a holistic approach to sustainability management that considers not only the company's internal actions but also how those actions are perceived by the outside world. Although this study showed some results that were in line with the initial hypothesis, there were also some conflicting findings, particularly related to the role of *media exposure* as a moderation variable. Further interpretation and explanation of conflicting findings will be crucial to provide a more comprehensive understanding of how these variables interact in influencing the company's value.

5. Conclusion and Suggestions

This study reveals several key findings regarding factors that affect company value, focusing on carbon emission disclosure, green investment, environmental performance, and media exposure as moderation variables. Key findings show that carbon emissions disclosure has a significant negative impact on a company's value. The higher the carbon emission disclosure, the lower the company's value in the market, which is caused by the negative perception of stakeholders

regarding carbon emissions that creates market pressure and lowers the stock price. This suggests that investors may consider carbon emission disclosures to be an indicator of high environmental risk.

In contrast, green investment does not show a significant influence on the company's value. Although often considered a strategy to improve a company's image and create long-term value, the impact of green investment in this context is not immediately or significant. This can happen due to the perception of greenwashing among investors or the cost of investment that may outweigh the benefits. These findings suggest that the positive impact of green investment on a company's value may depend on external factors such as environmental regulations and market perception.

Environmental performance, on the other hand, has been shown to have a significant positive influence on a company's value. Companies that improve their environmental performance tend to gain greater appreciation from the market, due to increased efficiency, reduced operational risk, and attractiveness for sustainability-conscious investors. These results confirm that companies that demonstrate good environmental performance can enjoy financial benefits through improved reputation and reduced costs related to environmental risks.

The role of media exposure as a moderator shows complex results. Media exposure does not amplify the positive impact of environmental performance, but tends to exacerbate the negative impact of carbon emission disclosure. High media exposure can reinforce negative perceptions related to carbon emission disclosure, while its impact on green investment is not significant. This highlights that media exposure can be a factor that exacerbates the negative impact of carbon emission disclosure and does not have a clear moderation effect on green investment.

While this study provides valuable insights into the influence of environmental factors on a company's value, there are some limitations that need to be noted. The study does not fully delve into the broader implications of its findings, especially in terms of how companies can respond or adapt their sustainability and communication strategies. Data limitations and research context also affect the generalization of results. Therefore, further research is needed to explore how regulatory context, market perception, and other external factors can affect the relationship between green investment, environmental performance, and company value. Thus, this study emphasizes the importance of a more holistic and adaptive communication and sustainability management strategy. Companies must consider how their actions in environmental management are perceived by the public and the media to increase the company's value as well as mitigate risks arising from negative perceptions.

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