

# Carbon Disclosure, Maturity, and Shareholder Value: Is It a Matter for the Board of Directors?

Carbon Disclosure,  
Maturity, and  
Shareholder Value

Erlynda Yuniarti Kasim

Sekolah Tinggi Ilmu Ekonomi Ekuitas; Bandung, Indonesia

E-Mail: erlynda\_kasim@yahoo.com

1265

Ade Imam Muslim

Sekolah Tinggi Ilmu Ekonomi Ekuitas; Bandung, Indonesia

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## ABSTRACT

*Environmental transparency and corporate governance are increasingly important for enhancing shareholder value in manufacturing firms. This study aims to examine the impact of carbon disclosure, corporate maturity, and the presence of women on boards of directors and commissioners on shareholder value in manufacturing companies listed on the Indonesia Stock Exchange from 2018 to 2022. The objectives include assessing whether carbon disclosure and corporate maturity positively influence shareholder value, evaluating the moderating role of corporate maturity, and analyzing the effect of female board representation. The research employs a quantitative approach, using moderated regression analysis with panel data from 116 companies, resulting in 580 firm-year observations. The findings indicate that carbon disclosure positively affects shareholder value, suggesting that transparent environmental reporting attracts investor interest. Corporate maturity also has a positive impact and strengthens the relationship between carbon disclosure and shareholder value. However, the presence of women on boards does not significantly influence shareholder value, likely due to their low representation. The study concludes that companies should prioritize carbon disclosure and leverage corporate maturity to enhance investor confidence. Increasing female representation on boards may align with global governance trends, despite its limited impact in this context.*

**Keywords:** Board Gender Diversity, Carbon Disclosure, Corporate Governance, Management Capabilities, Maturity, Shareholder Value.

## ABSTRAK

*Transparansi lingkungan dan tata kelola perusahaan semakin penting dalam meningkatkan nilai pemegang saham di perusahaan manufaktur. Penelitian ini bertujuan untuk mengkaji dampak pengungkapan karbon, kematangan perusahaan, dan keberadaan perempuan di dewan direksi dan komisaris terhadap nilai pemegang saham di perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia periode 2018 hingga 2022. Tujuannya meliputi penilaian apakah pengungkapan karbon dan kematangan perusahaan berpengaruh positif terhadap nilai pemegang saham, evaluasi peran moderasi kematangan perusahaan, dan analisis pengaruh representasi perempuan di dewan direksi. Penelitian ini menggunakan pendekatan kuantitatif, menggunakan analisis regresi moderasi dengan data panel dari 116 perusahaan, menghasilkan 580 observasi perusahaan-tahun. Temuan menunjukkan bahwa pengungkapan karbon berpengaruh positif terhadap nilai pemegang saham, yang menunjukkan bahwa pelaporan lingkungan yang transparan menarik minat investor. Kematangan perusahaan juga memiliki dampak positif dan memperkuat hubungan antara pengungkapan karbon dan nilai pemegang saham. Namun, keberadaan perempuan di dewan direksi tidak berpengaruh signifikan terhadap nilai pemegang saham, kemungkinan karena representasi mereka yang rendah. Penelitian ini menyimpulkan bahwa perusahaan harus memprioritaskan pengungkapan karbon dan memanfaatkan kematangan perusahaan untuk meningkatkan kepercayaan investor. Peningkatan representasi perempuan di*

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*dewan dapat sejalan dengan tren tata kelola global, meskipun dampaknya terbatas dalam konteks ini.*

**Kata kunci:** Keberagaman Gender Dewan Direksi, Pengungkapan Karbon, Tata Kelola Perusahaan, Kemampuan Manajemen, Kematangan, Nilai Pemegang Saham.

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### INTRODUCTION

Management's ability to understand macroeconomic conditions and future economic trends has been a topic of study for several decades and has garnered the attention of researchers (Plumlee & Yohn, 2010). This ability is crucial in navigating challenges such as environmental regulations and stakeholder expectations, particularly in Indonesia, where sustainability reporting is increasingly emphasized under regulations like POJK Number 51 of 2017 by the Financial Services Authority. Management is the main driver in implementing social, environmental, and economic initiatives effectively (Bolívar et al., 2015). Effective leadership ensures that companies align their strategies with global sustainability goals, such as reducing carbon emissions, which are critical for long-term success (Stout, 2012; Klettner et al., 2014). Carbon disclosure and corporate maturity must be investigated to increase shareholder value from the perspective of management capabilities (Godfrey, 2005; Alsaifi et al., 2020; Amril et al., 2024). It also extends the examination to assess how the presence of women in the board of directors and commissioners can influence shareholder expectations. Corporate maturity is one of the key factors affecting shareholder value (Khan et al., 2018; Arnau & Pinillos-Costa, 2024). As companies grow, this maturity phase brings implications for financial performance, capital structure, and growth strategies, all of which ultimately contribute to the value received by shareholders (Chay et al., 2015).

Research related to shareholder value is important to study various factors. According to Sulimany et al. (2021), the increasing value of shareholders indicates greater benefits flowing into the company. One factor of concern is carbon emissions disclosure and corporate maturity. Studies show that transparent carbon disclosure can signal a company's commitment to environmental responsibility, enhancing investor confidence (Haigh & Shapiro, 2011). According to Jaggi et al. (2018) and Khalaf et al. (2025), there is a positive association between carbon disclosure and rising stock prices, especially for companies with high pollution levels. In the context of Indonesia, research conducted by Sari et al. (2023) found a positive association between good financial performance and carbon disclosure by non-financial companies listed on the Indonesia Stock Exchange. Similarly, Bahriansyah and Ginting (2022) noted that carbon disclosure significantly influences firm value in Indonesia, particularly when media exposure is high. Recently, research by Majid and Jaaffar (2023) introduced the theme of gender, involving the testing of women's presence on the board of directors and commissioners. The research found that women's presence is significant, as they can act as advisors and provide critical suggestions for carbon disclosure. This is supported by Al-Qahtani and Elgharbawy (2020), who found that board diversity, including gender, enhances the quality of environmental disclosures.

Despite these findings, there are still inconsistencies in the literature that create a research gap. According to Ramadhan et al. (2023), carbon disclosure does not significantly affect corporate performance in some cases, contradicting studies by Rais and Usman (2020) and Velte et al. (2020), which suggest that carbon disclosure improves financial performance and shareholder value. Furthermore, while Bainjab (2022) and Majid and Jaaffar (2023) highlight the role of women on boards in enhancing carbon disclosure, limited studies in Indonesia explore how gender diversity interacts with corporate maturity and shareholder value in the manufacturing sector. This gap is critical, as Indonesia's manufacturing industry faces unique environmental challenges and regulatory pressures. The presence of women on boards of directors and commissioners in Indonesia has not been extensively studied, particularly regarding their ability to

strengthen carbon disclosure and shareholder value. Additionally, few studies integrate corporate maturity, carbon disclosure, and gender diversity as joint factors influencing shareholder value in the Indonesian context (Fernandes et al., 2019; Arayssi et al., 2020).

This study carried out several tests to examine how female representation on boards affects carbon disclosure, corporate maturity, and shareholder value, with a focus on manufacturing firms listed on the Indonesia Stock Exchange. The novelty of this research lies in investigating the contribution of women in board positions to enhancing shareholder value. In addition, the study is distinctive in integrating the aspects of corporate maturity and carbon disclosure as factors that jointly contribute to improving shareholder value. By addressing these objectives, this study aims to provide insights for companies and policymakers in Indonesia to enhance sustainability practices and corporate governance.

## **LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT**

### **Theoretical Foundations**

The study of carbon disclosure, corporate maturity, and shareholder value is grounded in several key theories. According to Jaggi et al. (2018), Signalling Theory suggests that companies disclose environmental information, such as carbon emissions, to signal their commitment to sustainability, thereby reducing information asymmetry with investors (Cooper et al., 2010). This theory is relevant to this study, as carbon disclosure may enhance shareholder value by demonstrating responsible management practices (Haigh & Shapiro, 2011). Similarly, Stakeholder Theory posits that firms must address the interests of various stakeholders, including shareholders and regulators, through transparent environmental reporting (Klettner et al., 2014; Al-Kubaisi & Khalaf, 2025).

In the Indonesian context, where sustainability reporting is mandated by regulations like POJK Number 51 of 2017, Stakeholder Theory explains why companies prioritize carbon disclosure to meet stakeholder expectations (Sari et al., 2023). Agency Theory also plays a role, as it highlights how management, including diverse boards, aligns corporate actions with shareholder interests to reduce agency costs (Rose, 2007). These theories collectively provide a framework for understanding how carbon disclosure and corporate maturity influence shareholder value. For instance, mature companies with stable governance structures are better positioned to implement effective environmental strategies, which can enhance investor confidence (Cumby & Conrod, 2001; Bouncken et al., 2021). The presence of women on boards may further strengthen governance by bringing diverse perspectives, aligning with Agency Theory (Fernandes et al., 2019). By integrating these theories, this study examines how management capabilities drive sustainable practices to create value for shareholders (Stout, 2012; Prasetyo, 2025).

### **Hypothesis Development**

This study focuses on three main variables: carbon disclosure, corporate maturity, and the presence of women on boards, and their impact on shareholder value. According to Bahriansyah and Ginting (2022), carbon disclosure significantly influences firm value in Indonesia, as it signals environmental responsibility to investors. This is supported by A Kouloukoui et al. (2020) and Frizal et al. (2023), who found that carbon disclosure affects investor reactions in Indonesia and Malaysia, particularly in industries with high environmental impact. Corporate maturity, often measured by firm age, is another critical factor. Chay et al. (2015) argue that mature firms tend to have higher valuations due to stable cash flows and established market positions, which attract investors (Al-Debi'e & Shohait, 2023). Furthermore, Velte et al. (2020) suggest that carbon disclosure enhances financial performance in mature firms, as they have the resources to invest in sustainability initiatives.

The presence of women on boards is also significant. Majid and Jaaffar (2023) found that women on boards improve carbon disclosure by providing critical insights and fostering ethical decision-making. This aligns with Al-Qahtani and Elgharbawy (2020), who noted that gender-diverse boards enhance environmental reporting quality.



post-COVID-19 conditions to reflect varying economic contexts. Sampling was conducted using a purposive approach, selecting firms that provide complete disclosures in their annual and sustainability reports, as suggested by Bahriansyah and Ginting (2022). This process involved accessing reports from the IDX website and individual company websites to ensure data reliability. Applying these criteria resulted in a final sample of 116 companies, yielding 580 firm-year observations.

The research models were developed to test the relationships between carbon disclosure, corporate maturity, gender diversity on boards, and shareholder value. The first model examines the direct effect of carbon disclosure and corporate maturity on shareholder value, with control variables for firm size and return on assets (ROA). The second model includes an interaction term to assess how corporate maturity moderates the relationship between carbon disclosure and shareholder value. The third model incorporates the proportion of women on the board of directors to evaluate its impact on carbon disclosure and shareholder value. These models are expressed as:

Model 1:

$$SHVt + 1 = \alpha_0 + \beta_1 CarbonDis_1 + \beta_2 Maturity_2 + \beta_3 ROA_3 + \beta_4 Size_4 + \varepsilon$$

Model 2:

$$SHVt + 1 = \alpha_0 + \beta_1 CarbonDis_1 + \beta_2 Maturity_2 + \beta_3 CarbonDis * Maturity_3 + \beta_4 ROA_4 + \beta_5 SIZE_5 + \varepsilon$$

Model 3:

$$SHVt + 1 = \alpha_0 + \beta_1 CarbonDis_1 + \beta_2 Maturity_2 + \beta_3 CarbonDis * Maturity_3 + \beta_4 Gender_4 + \beta_5 ROA_5 + \beta_6 SIZE_6 + \varepsilon$$

SHVt+1 represents shareholder value; CarbonDisit represents carbon disclosure, which indicates the level of carbon disclosure by the company. Maturityit represents corporate maturity; Genderit represents the proportion of women on the board of directors. ROAit and Sizeit are control variables representing the company's financial performance.

Data collection began by downloading annual and sustainability reports of the selected manufacturing firms from 2018 to 2022. These reports were manually reviewed to extract relevant data, which was then inputted into Excel for tabulation and variable measurement. The data was prepared for analysis using Eviews software, leveraging panel data to increase observation numbers and reduce collinearity, as supported by Hsiao (2005). This approach enhances the efficiency of econometric estimates compared to cross-sectional data. After data preparation, logistic regression was applied to test the models, with model selection conducted using the Chow, Hausman, and Lagrange Multiplier tests to determine the most suitable approach among common, fixed, and random effect models.

Carbon disclosure was measured using the Unequally Weighted Disclosure Index (UWDI), which assigns scores based on specific indicators: 1 point for mentioning the Kyoto Protocol or global warming, 2 points for having a plan to address global warming, 3 points for providing potential cost information to achieve global warming goals, 3 points for reporting current costs to reduce greenhouse gas emissions, and 3 points for disclosing the amount of carbon emissions, with a total possible score of 12. Corporate maturity was measured by the age of the company, reflecting its journey from early stages to stability. The proportion of women on the board of directors and commissioners was calculated as a percentage, following Abd Majid and Jaaffar (2023). Shareholder value was measured as the increase in market capitalization relative to additional paid-in capital, as suggested by Miglietta et al. (2018). Control variables included firm size, measured as the natural logarithm of total assets, and ROA, calculated as the ratio of net profit to total assets.

## RESULTS

This study employs panel data as the primary method of analysis. The initial stage involved downloading and organizing the dataset in line with the requirements of the research variables. Afterward, model selection was carried out through a series of tests, namely the Chow test, the Hausman test, and the Lagrange Multiplier test, to determine the most appropriate approach among the common effect, fixed effect, and random effect models. The outcomes of these tests indicated that the fixed effect model was the most suitable.

Subsequently, correlation and descriptive analyses were performed. The correlation analysis aimed to identify whether a positive relationship exists between the independent and dependent variables. Meanwhile, the descriptive analysis provided an overview of the dataset by examining the mean, maximum, minimum, and standard deviation values. The results of these analyses are presented in the following section, with Table 1 displaying the descriptive statistics.

**Table 1.** Descriptive Statistics and Correlation Matrix

Test	Statistics	Share Value	Carbon	Maturity	Gender	ROA	Size
Descriptive Statistic	Mean	0.42	0.838	39.68	0.225	0.997	9.621
	Median	0.42	0.800	38.00	0.000	0.030	10.00
	Maximum	3.04	2.200	107.0	3.000	121.9	14.00
	Minimum	-3.70	0.800	18.00	0.000	-65.17	0.000
	Std. Dev.	1.31	0.198	12.68	0.370	12.28	2.456
	Observations	578	578	578	578	578	578
Correlation Matrix	Share value	1.000					
		-----					
	Carbon	-0.078	1.000				
		0.060**	-----				
	Maturity	-0.098	-0.037	1.000			
		0.017***	0.370	-----			
	Gender	0.074	-0.078	0.144	1.000		
		0.074***	0.058**	0.000***	-----		
	Roa	0.054	0.049	-0.055	0.019	1.000	
		0.190*	0.231	0.181	0.643	-----	
Size	0.365	-0.079	-0.197	0.084	-0.084	1.000	
	0.000***	0.055**	0.000***	0.043**	0.041**	-----	

\*Significant at 10% level

\*\*Significant at 5% level

The descriptive statistics summarize the characteristics of the variables examined in this study. Shareholder value among the sampled firms shows an average and median of 0.42, reflecting a relatively balanced distribution. The values range from a minimum of -3.70 to a maximum of 3.04, with a standard deviation of 1.31, suggesting considerable variation across firms. For the carbon emissions variable, the mean is 0.838 with a standard deviation of 0.198, indicating that emission levels among most companies are fairly comparable, with only modest differences observed.

The maturity variable, measured by company or asset age, has an average of 39.68 years, ranging from 18 to 107 years, and a standard deviation of 12.68, reflecting broad variation in firm longevity within the sample. Gender diversity, expressed as the proportion of women in leadership roles, has an average value of 0.225. Both the median and minimum values are 0, highlighting that many companies have minimal or no female representation in management or decision-making positions.

For financial performance, Return on Assets (ROA) averages 0.997, though the extreme minimum of -65.17 reveals that several firms experienced substantial financial losses. The standard deviation of 12.28 confirms wide variation in profitability. Lastly, firm size, measured through assets or revenue, averages 9.621, capturing the scale of operations among the sampled companies.

The correlation analysis between these variables shows some interesting relationships. Shareholder value has a weak negative correlation with Carbon (-0.078), indicating that the relationship between share-holder value and carbon emissions is very small and negative. This small correlation suggests that carbon emissions have a negligible impact on shareholder value in this sample. Shareholder value also has a weak negative correlation (-0.098) with Maturity, showing that older or more mature companies tend to have slightly lower shareholder values. However, this relationship is also weak. The strongest correlation is between Shareholder value and Size (0.365), indicating that larger companies tend to have higher shareholder values. This relationship is clearer compared to the other variables. ROA also has a positive correlation with Shareholder value (0.190), suggesting that companies with better financial performance, as measured by ROA, tend to have higher shareholder value. However, this correlation is still moderate. Gender has a very weak correlation with Shareholder value (0.074), indicating that the proportion of women in the management of companies does not have a meaningful influence on shareholder value. Next, we conducted a multivariate test on the research models we formulated. This test uses the fixed effect model, based on the results of the model selection process. Table 2 shows the multivariate testing.

Table 2. Multivariate Testing

Statistics	Model 1	Model 2	Model 3
C	-1.049557 0.0060***	-5.014154 0.0122***	-4.911311 0.0141***
Carbon	-0.353524 0.100*	4.620761 0.0619**	4.457923 0.0718**
Maturity	-0.002145 0.6070	0.111433 0.0480***	0.106532 0.0591**
Carbon * Maturity		-0.140670 0.0433***	-0.135361 0.0521**
Gender			0.142810 0.3105
ROA	0.009472 0.0248**	0.007076 0.1052*	0.007094 0.100*
Size	0.191802 0.0000***	0.187232 0.0000***	0.189048 0.0000***
Observation	579	579	578
Adjusted R-Square	0.130996	0.135698	0.137665
F-statistic	11.89120	11.08308	10.21131
Prob	0.0000***	0.0000***	0.0000***

\*Significant at 10% level

\*\*Significant at 5% level

\*\*\*Significant at 1% level

Based on Table 2, in the first test using Model 1, we found that the model passes the goodness-of-fit test, with a significance level of 0.000, which is significant at the 1% level. We also found that carbon disclosure has a significance level of 0.1, or significant at the 10% level, before incorporating the maturity factor. The results indicate that carbon disclosure does not yet have a significant impact on increasing company value, and neither does corporate maturity. On the other hand, company performance and size have a significant influence on shareholder value, which aligns with the motivation of shareholders to focus on company performance and asset size.

In Model 2, we combined corporate maturity with the carbon disclosure conducted by the company. The test results provide strong empirical evidence that carbon disclosure has a positive effect on increasing shareholder value, with a significance level of 10%. This suggests that carbon disclosure is one of the factors that investors pay attention to. The first hypothesis in this study is proven. Our findings support the studies by Bahriansyah and Ginting (2022), Afrizal et al. (2023), and the signal theory used in discussing this issue. Furthermore, we also found that corporate maturity has a positive influence on increasing shareholder value, indicating that experienced companies, having reached a mature

phase, attracted investor attention and raised their expectations for increased value. This is in line with previous studies conducted by Chay et al. (2015) and Al-Debi'e and Shohait (2023), thus confirming the second hypothesis.

In Model 2, we also found that when we use Moderated Regression Analysis (MRA), corporate maturity plays a significant role in strengthening the impact of carbon disclosure on shareholder value. Thus, the third hypothesis is accepted. Corporate maturity can affect carbon disclosure because a company's life cycle stage influences its priorities, capabilities, and motivations to disclose information related to environmental impacts, including carbon emissions. Companies that have reached the maturity stage tend to have better financial and operational stability compared to companies in the early growth stage. With more stable finances, mature companies have greater resources to implement adequate environmental reporting systems, including carbon disclosure.

Moreover, mature companies tend to have stable cash flows and consistent profits, giving them more room to focus on environmental and sustainability issues, including investments in environmentally friendly technologies or carbon reduction strategies. Transparent carbon disclosure can enhance the company's positive image in the eyes of the public and stakeholders. A good reputation in terms of environmental responsibility will attract more institutional investors who focus on ESG criteria. Companies that disclose their carbon emissions transparently are often perceived as more responsive in managing climate change risks. Investors appreciate companies with strong sustainability strategies, as they see this as an indicator that the company is prepared to face tightening environmental regulations and the potential economic impacts of climate change. Finally, we included the gender variable (women on the board of directors and commissioners) in examining its effect on shareholder value. The test results provide evidence that the presence of women on the board of directors and commissioners does not yet serve as a factor driving an increase in shareholder value. Investors in Indonesia are not influenced by gender when applying their expectations for increased value. This finding does not support the studies by Majid and Jaaffar (2023) and rejects the fourth hypothesis.

## **DISCUSSION**

This study provides empirical evidence on the interplay between carbon disclosure, corporate maturity, and board gender diversity in influencing shareholder value among Indonesian manufacturing firms from 2018 to 2022. According to Bahriansyah and Ginting (2022), carbon disclosure significantly enhances firm value by signaling environmental responsibility to investors, a finding consistent with our results showing a positive effect at the 10% significance level in Model 2. This aligns with Signaling Theory, which suggests that transparent environmental reporting reduces information asymmetry and boosts investor confidence (Jaggi et al., 2018). However, our findings contrast with Ramadhan et al. (2023), who found no significant link between carbon disclosure and corporate performance. This discrepancy may stem from differences in sample composition, as our study focuses solely on manufacturing firms, which face stricter environmental regulations in Indonesia, such as POJK Number 51 of 2017 (Sari et al., 2023). The positive effect of carbon disclosure highlights its importance in Indonesia's manufacturing sector, where environmental accountability is increasingly valued by stakeholders.

Corporate maturity also plays a significant role in enhancing shareholder value, supporting our second hypothesis. According to Chay et al. (2015), mature firms benefit from stable cash flows and established market positions, making them attractive to investors. Our results confirm this, showing that corporate maturity positively influences shareholder value at a 5% significance level in Model 2. Furthermore, the moderation effect of corporate maturity on the relationship between carbon disclosure and shareholder value, as tested in Model 2, aligns with Velte et al. (2020), who argue that mature firms have greater resources to implement robust environmental strategies. This finding suggests that older firms in Indonesia's manufacturing sector are better equipped to leverage carbon disclosure for value creation, possibly due to their operational stability

and access to advanced reporting systems (Al-Debi'e & Shohait, 2023). This moderation effect underscores the importance of firm life cycle stages in shaping sustainability practices.

The lack of a significant effect of board gender diversity on shareholder value, as found in Model 3, contrasts with prior studies. According to Majid and Jaaffar (2023), women on boards enhance carbon disclosure by offering diverse perspectives, yet our results show no direct impact on shareholder value. This discrepancy may be attributed to the low representation of women in Indonesian corporate boards, as evidenced by the average gender diversity score of 0.225 in our sample (Fernandes et al., 2019). This finding is consistent with Wijaya (2020), who noted limited gender diversity in Indonesia's carbon-intensive industries. The absence of a significant effect may also reflect investor priorities in Indonesia, where financial performance and firm size, as shown by the strong significance of ROA and size in all models, outweigh governance factors like gender diversity (Shamsuddin & Alshahri, 2022). This suggests that cultural and institutional factors in Indonesia may limit the perceived value of gender diversity in corporate boards.

The findings have important implications for theory and practice. From a theoretical perspective, our study supports Signaling Theory by demonstrating that carbon disclosure serves as a signal of environmental responsibility, enhancing shareholder value, particularly in mature firms. It also extends Stakeholder Theory by highlighting how mature firms balance stakeholder demands through transparent reporting. Practically, Indonesian manufacturing firms should prioritize comprehensive carbon disclosure to attract ESG-focused investors, especially as regulations like POJK Number 51 of 2017 tighten. Firms should also invest in robust environmental reporting systems, particularly as they mature, to leverage their stability for value creation. This study also emphasizes the strategic effect of carbon governance and corporate maturity in increasing firm value, in that appropriate governance structures can help mature firms to disclose carbon more transparently and turn sustainability innovations into shareholder value over time. Although gender diversity did not significantly impact shareholder value, companies should consider increasing female representation on boards to align with global governance trends, as suggested by Arayssi et al. (2020) and Bel-Oms et al. (2025). Policymakers in Indonesia could introduce incentives or guidelines to encourage gender diversity and sustainability reporting, fostering a more inclusive and environmentally responsible corporate landscape (Fina et al., 2024; Prasetyo, 2025). These steps could enhance firm competitiveness and investor trust in Indonesia's manufacturing sector.

## **CONCLUSION**

This study examines the influence of carbon disclosure, corporate maturity, and the presence of women on boards of directors and commissioners on shareholder value in manufacturing companies listed on the Indonesia Stock Exchange from 2018 to 2022. The findings show that carbon disclosure has a positive effect on shareholder value, indicating that transparent environmental reporting attracts investor interest. Similarly, corporate maturity positively influences shareholder value, as mature firms benefit from stable operations and established market positions. The moderating effect of corporate maturity strengthens the relationship between carbon disclosure and shareholder value, highlighting the importance of firm stability in leveraging environmental transparency. However, the presence of women on boards does not significantly impact shareholder value, possibly due to their limited representation in Indonesian corporate leadership.

These findings offer practical implications for Indonesian manufacturing firms. Companies should prioritize transparent carbon disclosure to build investor trust and align with regulations like POJK Number 51 of 2017, which emphasizes sustainability reporting. Mature firms can leverage their stability to invest in robust environmental strategies, enhancing their market value. To address the insignificant impact of gender diversity, firms should consider increasing female representation on boards to align with global governance trends. However, this study has limitations, as it focuses only on manufacturing firms and relies on the quantity rather than the quality of carbon

disclosure. Future research could explore other industries, such as mining or services, to compare their environmental reporting practices. Additionally, examining the qualitative aspects of carbon disclosure, such as the depth of sustainability initiatives, could provide deeper insights into its impact on shareholder value.

## REFERENCES

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- [1] Afrizal, Safelia, N., & Muda, I. (2023). Determinants of carbon emission disclosure and sustainability reporting and their implications for investors' reactions: The case of Indonesia and Malaysia. *International Journal of Management and Sustainability*, 12(2), 271–288.
- [2] Al-Debi'e, M. M., & Shohait, A. D. (2023). The effect of firm life cycle on the relationship between market stock return and accounting earnings, losses and book value per share: Evidence from Jordan. *Jordan Journal of Business Administration*, 19(1), 146–169.
- [3] Al-Kubaisi, M. K., & Abu Khalaf, B. (2025). Climate governance, ESG reporting, and the firm performance: Does it matter more for Europe or the GCC? *Sustainability*, 17(9), 3761–3776.
- [4] Al-Qahtani, M., & Elgharbawy, A. (2020). The effect of board diversity on disclosure and management of greenhouse gas information: Evidence from the United Kingdom. *Journal of Enterprise Information Management*, 33(6), 1557–1579.
- [5] Alsaifi, K., Elnahass, M., & Salama, A. (2020). Carbon disclosure and financial performance: UK environmental policy. *Business Strategy and the Environment*, 29(2), 711–726.
- [6] Amril, E., Sukraini, J., & Defitri, S. Y. (2024). Determination of share prices in automotive manufacturing companies. *Jurnal Ilmiah Akuntansi Kesatuan*, 12(1), 179–188.
- [7] Arayssi, M., Jizi, M., & Tabaja, H. H. (2020). The impact of board composition on the level of ESG disclosures in GCC countries. *Sustainability Accounting, Management and Policy Journal*, 11(1), 137–161.
- [8] Arnau, L. D. E., & Pinillos-Costa, M. J. (2024). Board of directors and business transformation: A bibliometric analysis. *European Journal of Management and Business Economics*, 33(2), 212–236.
- [9] Badu, E. A. (2025). When does board share ownership matter? Evidence from across firm life cycle in Sub-Saharan Africa. *Afro-Asian Journal of Finance and Accounting*, 15(1), 98–116.
- [10] Bahriansyah, R. I., & Ginting, L. Y. (2022). Pengungkapan emisi karbon terhadap nilai perusahaan dengan media exposure sebagai variabel moderasi. *Jurnal Riset Akuntansi & Perpajakan*, 9(2), 249–260.
- [11] Bainjab, K. O. P. (2022). *Pengaruh dewan direksi, keberagaman gender, komite lingkungan, dan sistem manajemen lingkungan terhadap pengungkapan emisi karbon (Studi empiris pada perusahaan yang terdaftar di Bursa Efek Indonesia tahun 2017-2020)*. Yogyakarta: Universitas Atma Jaya Yogyakarta (Doctoral dissertation).
- [12] Bel-Oms, I., Pucheta-Martínez, M. C., & Gallego-Álvarez, I. (2025). Do CEO attributes in the energy sector matter in sustainability performance? The moderating role performed by board gender diversity. *Corporate Social Responsibility and Environmental Management*, 32(3), 3997–4018.
- [13] Bolívar, M. P. R., Garde Sánchez, R., & López Hernández, A. M. (2015). Managers as drivers of CSR in state-owned enterprises. *Journal of Environmental Planning and Management*, 58(5), 777–801.
- [14] Bouncken, R. B., Ratzmann, M., & Kraus, S. (2021). Anti-aging: How innovation is shaped by firm age and mutual knowledge creation in an alliance. *Journal of Business Research*, 137(3), 422–429.
- [15] Carvajal, M., Nadeem, M., & Zaman, R. (2022). Biodiversity disclosure, sustainable development and environmental initiatives: Does board gender diversity matter? *Business Strategy and the Environment*, 31(3), 969–987.
- [16] Chay, J. B., Kim, H., & Suh, J. (2015). Firm age and valuation: Evidence from Korea. *Asia-Pacific Journal of Financial Studies*, 44(5), 721–761.
- [17] Cooper, M. J., Gulen, H., & Ovtchinnikov, A. V. (2010). Corporate political contributions and stock returns. *The Journal of Finance*, 65(2), 687–724.
- [18] Cumby, J., & Conrod, J. (2001). Non-financial performance measures in the Canadian biotechnology industry. *Journal of Intellectual Capital*, 2(3), 261–272.
- [19] Fernandes, S. M., Bornia, A. C., & Nakamura, L. R. (2019). The influence of boards of directors on environmental disclosure. *Management Decision*, 57(9), 2358–2382.
- [20] Fina, F., Maulidia, R., & Mustika, I. G. (2024). The effect of green accounting, carbon emission disclosure and profitability on company value. *Jurnal Ilmiah Akuntansi Kesatuan*, 12(5), 685–694.
- [21] Godfrey, P. C. (2005). The relationship between corporate philanthropy and shareholder wealth: A risk management perspective. *Academy of Management Review*, 30(4), 777–798.
- [22] Haigh, M., & Shapiro, M. A. (2011). Carbon reporting: Does it matter? *Accounting, Auditing & Accountability Journal*, 25(1), 105–125.
- [23] Hsiao, C. (2005). Invited eminent paper series, Why Panel Data? *The Singapore Economic Review*, 50(2), 143–154.
- [24] Jaggi, B., Allini, A., Macchioni, R., & Zampella, A. (2018). Do investors find carbon information useful? Evidence from Italian firms. *Review of Quantitative Finance and Accounting*, 50(4), 1031–1056.

- [25] Khalaf, B. A., Alqahtani, M. S., & Al-Naimi, M. S. (2025). Climate change commitment and stock returns in the Gulf Cooperation Council (GCC) countries. *Sustainability*, 17(11), 5008–5024.
- [26] Khan, U., Li, B., Rajgopal, S., & Venkatachalam, M. (2018). Do the FASB's standards add shareholder value? *The Accounting Review*, 93(2), 209–247.
- [27] Klettner, A., Clarke, T., & Boersma, M. (2014). The governance of corporate sustainability: Empirical insights into the development, leadership and implementation of responsible business strategy. *Journal of Business Ethics*, 122(1), 145–165.
- [28] Kouloukoui, D., Marinho, M. M. D. O., Gomes, S. M. D. S., de Jong, P., Kiperstok, A., & Torres, E. A. (2020). The impact of the board of directors on business climate change management: Case of Brazilian companies. *Mitigation and Adaptation Strategies for Global Change*, 25(1), 127–147.
- [29] Majid, N. A., & Jaaffar, A. H. (2023). The effect of women's leadership on carbon disclosure by the top 100 global energy leaders. *Sustainability*, 15(11), 8491–8516.
- [30] Miglietta, N., Battisti, E., & Garcia-Perez, A. (2018). Shareholder value and open innovation: Evidence from Dividend Champions. *Management Decision*, 56(6), 1384–1397.
- [31] Plumlee, M., & Yohn, T. L. (2010). An analysis of the underlying causes attributed to restatements. *Accounting Horizons*, 24(1), 41–64.
- [32] Prasetyo, P. A. (2025). *Pengaruh karakteristik dewan direksi terhadap pengungkapan Sustainability Development Goals (SDG) di perusahaan Indonesia*. Yogyakarta: Universitas Islam Indonesia (Doctoral dissertation).
- [33] Rais, A. H., & Usman, A. (2020). Effect of eco-efficiency and corporate social performance on firm value with financial performance as intervening variables (Study on mining and manufacturing companies listed on the Indonesia Stock Exchange). *International Journal of Innovative Science and Research Technology*, 5(12), 510–522.
- [34] Ramadhan, P., Rani, P., & Wahyuni, E. S. (2023). Disclosure of carbon emissions, Covid-19, green innovations, financial performance, and firm value. *Jurnal Ilmiah Akuntansi Kesatuan*, 25(1), 1–16.
- [35] Rose, J. M. (2007). Corporate directors and social responsibility: Ethics versus shareholder value. *Journal of Business Ethics*, 73(3), 319–331.
- [36] Sari, M. P., Widiastutik, R., Khafid, M., Baroroh, N., & Jannah, R. (2023). The determinants of carbon emission disclosures with proper rating as a mediating variable in non-financial companies in Indonesia. *International Journal of Sustainable Development and Planning*, 18(1), 145–152.
- [37] Shamsuddin, A. Bin, & Alshahri, G. M. (2022). The effect of audit committee characteristics on firm performance: Evidence from non-financial sectors in Oman. *Asian Economic and Financial Review*, 12(9), 816–836.
- [38] Stout, L. A. (2012). *The shareholder value myth: How putting shareholders first harms investors, corporations, and the public*. San Francisco: Berrett-Koehler Publishers.
- [39] Sulimany, H. G. H., Ramakrishnan, S., Chaundhry, A. A., & Bazhair, A. H. (2021). Impact of corporate governance and financial sustainability on shareholder value. *Estudios de Economia Aplicada*, 39(4), 1–17.
- [40] Velte, P., Stawinoga, M., & Lueg, R. (2020). Carbon performance and disclosure: A systematic review of governance-related determinants and financial consequences. *Journal of Cleaner Production*, 254(1), 63–83.
- [41] Wijaya, T. (2020). *Pengaruh dewan direksi, dewan komisaris independen dan komite lingkungan terhadap pengungkapan emisi karbon pada perusahaan carbon intensive industry yang terdaftar di BEI tahun 2016-2019*. Yogyakarta: Universitas Atma Jaya Yogyakarta (Doctoral dissertation).
- [42] Yoganathan, V., Osburg, V. S., & Akhtar, P. (2019). Sensory stimulation for sensible consumption: Multisensory marketing for e-tailing of ethical brands. *Journal of Business Research*, 96(1), 386–396.

