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Original Article

The Role of Good Corporate Governance on Firm Value in Indonesia: Using Carbon Accounting as Moderating Variable

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Abstract: *The goal of this research was to determine how the frequency of commissioners' meetings and the proportion of independent commissioners affect firm value with carbon accounting moderated. This research was also conducted because over time, the carbon emissions generated are increasing, especially the carbon emissions generated by companies operating in the Coal sub-sector mining companies and the need to increase the implementation of GCG in operational activities. The approach used in this research is quantitative, which consists of numbers that will be measured using statistics, which serves as a tool for analyzing data. This research data uses moderated regression analysis techniques by taking secondary data, namely data obtained from the Bloomberg website and the company's website. The research sample amounted to 33 observation data with 22 Coal sub-sector companies based on purposive sampling. The results showed that only the proportion of independent commissioners had a significant effect on firm value, while the frequency of commissioner meetings had no significant effect on firm value. In addition, carbon accounting cannot moderate the frequency of commissioner meetings and the proportion of independent commissioners on firm value.*

Keywords: *Frequency of Commissioners' Meetings, Proportion of Independent Commissioners, Carbon Accounting, PBV.*

I. INTRODUCTION

Firm value, or the cost that investors in the company are prepared to pay, is an investor's assessment of the business's rate of achievement and is frequently correlated with the share price. A high stock price makes the company value high. High company value is the desire of business owners because high value symbolizes high shareholder prosperity so that shareholders will invest in the company. One sector that can attract investor attention is the mining sector, especially the coal sub-sector. The coal sub-sector plays a significant part in supporting the country's economy because revenue from taxes and royalties on coal sales can be allocated to support economic development and as one of the economic energy resources to meet national electricity needs.

According to PwC's 2022 report, mining sector revenues stabilized at US$711 billion in 2022 - another year of strong financial performance -but rising costs and economic uncertainty squeezed EBITDA margins from 32% to 29% (PwC, 2022). In its 20th edition, PwC's report titled "2023 Mine: The Era of Reinvention" is an annual report on the top 40 global mining companies that examines trends in the mining industry. In this report, PwC found that the market capitalization of the top 40 mining companies tripled from US$400 billion in 2003 to US$1.2 trillion in 2022. This year, one of Indonesia's coal companies made it into the top 10 global mining companies by market capitalization, supported by a significant increase in coal prices to meet energy security requirements. With a rise from 23% to 28%, coal accounted for the greatest portion of overall income in the top 40 for the first time since 2010. Price was a major factor in this surge; in certain situations, average spot prices doubled over the course of the year. The following are the largest coal companies in Indonesia that have been listed on the IDX.

Table 1: List of Company Values (Tobin's Q Ratio) Coal Subsector Companies listed on the IDX for the period 2020-2022

No	Emiten	Year			Growth
		2020	2021	2022	
1.	PT Bumi Resources Tbk (BUMI)	1,28	1,20	1,51	23%
2.	PT Adaro Energy Tbk (ADARO)	0,93	1,10	1,15	22%
3.	PT Dian Swastatika Sentosa Tbk (DSSA)	0,83	1,37	0,99	38%
4.	Bayan Resources Tbk (BYAN)	2,76	2,85	11,96	92%
5.	PT Bukit Asam Persero Tbk (PTBA)	1,61	1,20	1,30	-31%

Resources: *processed data (2023)*

The data above is the largest coal mining company in Indonesia listed on the Indonesia Stock Exchange. The table above shows the value of coal sector mining companies as measured by Tobins'Q, which has a variety of values if the q>1 ratio shows that investing in assets yields earnings with more value. If the q-ratio <1, investment in assets is undervalued by the market. When viewed from the growth value, the tendency is to experience a significant increase in the amount from 2020 to 2022.

Good corporate governance (GCG) can be implemented to monitor the performance of management and ensure that management acts in the principal's best interests, which is to increase company value. This can help to minimize conflicts among administration and principals. (Wahidahwati & Ardini, 2021). If a corporation satisfies the requirements of good corporate governance—transparency, accountability, responsibility, independence, fairness, and equality—it can be said to have good corporate governance. According to Andreou et al. (2017), the established regulatory changes mandate that all companies maintain the GCG principles while also making sure these values are implemented through suitable board structures and mechanisms. Emerging markets, such as Indonesia, are anticipated to follow global efforts and apply GCG by enhancing board roles' efficacy (Alijoyo & Sirait, 2022). The proportion of independent commissioners and the frequency of board discussions are the GCG methods employed in this research.

The Board of Commissioners consists of members of the company and independent parties. The presence of independent commissioners in a company is believed to influence every decision made by all commissioners in the company. In carrying out their duties, commissioners communicate regularly with directors and committees under them through meetings and reports. With a high level of supervision, the information contained in the financial statements can describe the reality of the company without the need for earnings management, which can increase the company's value. Research conducted by Lestari & Triyani (2017) asserts that the number of Board of Commissioners meetings has a major impact on the value of the company, while according to Lestari et al. (2020), the frequency of Board of Commissioners meetings has no significant effect on firm value.

The next mechanism is the proportion of independent commissioners. The percentage of commissioners who are independent indicates the implementation of good corporate governance. A large proportion of independent commissioners will provide an opportunity to achieve transparency in financial reporting, which will build investor confidence in the company. This shows that the proportion of independent commissioners greatly affects firm value (Halim, 2021). According to (Halim, 2021) (2021), the percentage of independent commissioners significantly impacts the value of the company, while Wahyuni (2019) and Anwar (2023) state that the proportion of independent commissioners has no significant effect on the firm value.

Disclosure of carbon emissions is a tangible form of corporate responsibility in reducing social inequality as well as the impact of environmental damage caused by corporate activities that emit carbon emissions (Hardiyansah et al., 2021). Disclosure of carbon emissions provides a competitive advantage for the company so that it can provide an increase in company value (Kurnia et al., 2021). According to Bahriansyah & Ginting (2022) and Yuliandhari et al. (2023), carbon emission disclosure has a significant effect on firm value.

This study aims to provide empirical evidence that the frequency of commissioners' meetings and the proportion of independent commissioners affect firm value. Furthermore, this study also aims to examine carbon accounting in moderating the implementation of good corporate governance on firm value. This research refers to Signaling Theory and Stewardship Theory. In addition, there are still research gaps in previous studies, so they need to be reviewed. This study adds new evidence, including testing companies that publish sustainability reports related to carbon emissions generated by the company. The results of this study provide practical input to users of financial statements on the company's efforts to create corporate value. Financial statement users can make meaningful decisions by choosing to invest in companies with good corporate governance that meet sustainability requirements and create firm value.

II. LITERATURE REVIEW

A) Signalling Theory

Companies' inclination to give external parties access to financial statement information can be explained by the Signaling Theory (Spence, 1973). The company's desire to share information stems from the information asymmetry that exists between it and foreigners since it is more knowledgeable about its operations and prospects than outsiders, such as creditors and investors. By minimizing information asymmetry, the company seeks to boost its value (Helennia et al., 2022). High-quality businesses will consciously communicate with the market to set themselves apart from low-quality businesses. According to signal theory, external parties with an interest in enhancing the company's worth and reputation get information or signals based on the business's performance as well as the economic, ecological, and social situations.

B) Stewardship Theory

Stewardship Theory (Donaldson & Davis, 1991) is a theory that describes the situation of management, especially independent commissioners, who are more focused on achieving their primary goals for the betterment of the company or more considerate of the principal's interests rather than being driven by personal objectives and interests. The conceptual underpinnings of stewardship theory are that people are naturally trustworthy, capable of acting responsibly, and sincere and truthful with one another. Put differently, stewardship theory believes that upper management can be relied upon to behave in the stakeholders and the general public's best interests. Thus, the interests of the steward and the motivation to obtain utility are aimed directly at the organization to achieve high Company value and not for personnel purposes.

C) Firm Value

Firm value is investors' perceptions of the company's success rate, which is often associated with stock prices (Muchtar, 2021: 95). Meanwhile, according to Tamrin and Maddatuang (2019: 12), company value is the main achievement of every implementation of business management. This can be achieved by carrying out financial functions, namely investment, financing, and dividends, effectively and efficiently. The market value of stock, which is an indication of the management of assets and financing investment decisions (financing), reflects the wealth of shareholders and companies. Because the price of a stock is thought to be a representation of the true value of the assets owned by the business, the market price of the business's stock that arises between buyers and sellers when an exchange takes place is known as the company's market value. The worth of an organization, as determined by the stock market value indication, is heavily impacted by investment prospects. The availability of investment prospects may indicate that a firm will continue to grow, which will raise the company's worth. (2019, Herninta)

D) Good Corporate Governance

The Indonesian General Guidelines for Corporate Governance (PUGKI) define good corporate governance as a framework and procedure used to lead and manage business in order to achieve accountability for shareholders and business advancement with the ultimate objective of generating wealth for shareholders and corporate value in an environmentally friendly way by considering stakeholders' interests. (National Committee for Governance Policy, 2021).

In broad terms, internal and external processes are used to execute corporate governance. Internal mechanisms refer to methods of managing the business through its internal frameworks and procedures, such as shareholder meetings (GMS), the makeup of the Board of directors and Board of commissioners, and board meetings. (Tamrin and Maddatuang, 2019: 53). Independent commissioners must make up at least 30% of all commissioners in order for a company to be featured on the Indonesia Stock Exchange. The Financial Services Authority Regulation Number 33 / POJK.04 / 2014 specifies this.

E) Carbon Accounting

According to Dwijayanti (2011), carbon accounting is the procedure of determining how much carbon is released into the atmosphere as a result of industrial activities, building systems and programs to do so, setting reduction objectives, and reporting on the results of these efforts. Through the use of carbon accounting, a business can determine its amount of carbon emissions from measuring findings. Management can then develop strategies to lower carbon emissions and communicate these to the company's stakeholders.

Carbon emissions disclosures contain information related to information about past and future carbon performance for both internal and external stakeholders, as well as additional climate-related data, such as qualitative data regarding opinions or approaches to cutting carbon emissions (Pitrakkos & Maroun, 2020). SEOJK Number 16 /SEOJK.04/2021 to complement POJK 51/POJK.03/2017, which regulates the disclosure of carbon emissions in the sustainability report of Financial Services Institutions, Issuers, or Public Companies in environmental performance, which at least contains information about: (a)Total emissions (Chapter III. Sustainability Performance point F11), (b) Intensity of emissions generated by type (Chapter III. Sustainability Performance point F11), (c) Efforts made to achieve emission reductions (Chapter III. Sustainability Performance point F12), (d) Achievement of emission reduction (Chapter III. Sustainability Performance point F12), (e) Amount and intensity of energy used (Chapter III. Sustainability Performance point F6).

F) The Effect of Frequency of Commissioner Meetings on Company Value

The company's organ responsible for monitoring the Board of Directors' policies and, where needed, advising the Board of Directors on how to conduct the company's business is the Board of Commissioners. Furthermore, the Board of Commissioners guarantees that the company follows GCG guidelines. The Board of Directors and Board of Commissioners of Issuers or Public Companies are governed by Financial Services Authority Regulation Number 33/POJK.04/2014. This regulation states that the Board of Directors must meet a minimum of once every two months, while the Board of Directors is required by OJK to meet at least once a month and jointly with the Board of Commissioners once every four months. (Financial Services Authority, 2014). This is in relation to a signal theory where communication and coordination between members can provide useful information for companies that are beneficial to developing company value. Communication and coordination activities can be characterized by the development or frequency of board meetings. The number of frequent board meetings puts pressure on management to increase firm value due to the strict supervisory function of the Board (Umbing et al., 2022). This is in line with research conducted by Lestari and Triyani (2017), which states that the frequency of board meetings has a significant effect on firm value.

G) The Effect of the Proportion of Independent Commissioners on Company Value

The Effect of the Proportion of Independent Commissioners on Company Value. The Board of Commissioners is a board whose job is to supervise the activities of a company. Since transactions involving various stakeholder interests in public corporations are common in practice, having an impartial board of commissioners is crucial. It is the duty of independent commissioners to promote the application of sound corporate governance practices. According to stewardship theory, Donaldson & Davis (1991), the highest internal control mechanism in place to keep an eye on managerial policies is the independent Board of Commissioners. In stewardship theory, it is stated that a large number of independent board members will protect and maximize organizational wealth with the company's performance so that it makes it easier to control top management, and the monitoring function will be more effective, which ultimately increases company value (Amaliyah & Herwiyanti, 2019). An independent board of commissioners can add value to the company because it increases responsibility, provides judgment, and improves business connections and networks (Bosse & Phillips, 2016). This is in line with research conducted by Halim (2021), which states that the proportion of independent commissioners has a significant effect on firm value.

H) The Effect of Commissioner Meeting Frequency on Company Value with Moderated Carbon Accounting

If a company discloses carbon emissions in its financial statements, it has shown that the company is serious about the problem of global warming due to greenhouse gases (GHG). The rising value of the business's shares illustrates the rise in company value (Rahmawati et al., 2021). In order for company managers to decide on the best course of action during the Board of Commissioners meeting to reduce the quantity of carbon emissions produced in the upcoming period and notify company stakeholders, the company can use this record to calculate the level of carbon emissions obtained from the measurement process. According to Kelvin et al.,(2017), carbon emissions reporting has a significant and positive impact on the company's operational performance and financial performance. In operational performance, reporting carbon emissions will motivate company managers to restore nature, which will help the company in doing more efficiency, including saving electrical energy and controlling emissions from biomass burning or boilers so as to reduce operational costs and increase company profits. Increasing the company's operational performance will also be accompanied by an increase in the value of the company's assets, which will then create trust from the company's holders as an environmentally friendly company.

I) The Effect of the Proportion of Independent Commissioners on Firm Value with Moderated Carbon Accounting

The application of sound corporate governance, particularly the percentage of independent commissioners in a firm that complies with OJK requirements, is a form of positive signal to external parties. According to signal theory, information can be used as a guide for investors regarding how management sees the company's prospects. Apart from looking at the implementation of good corporate governance, information from company activities that have an impact on the environment is expected to show that the company has good management and has carried out activities transparently. Companies with good corporate governance can make disclosure of carbon emissions, which can increase company value because investors consider environmental issues, especially carbon emissions (Luo & Tang, 2014). The Board of Commissioners will supervise the performance of agents to ensure the disclosure of information such as GHG emissions that will be carried out by the company. Previous research also revealed that independent commissioners will be more inclined to the public interest and shareholder interests so that the company will disclose information related to the environment and ultimately increase company value (Grediani et al., 2020).

J) Conceptual Framework

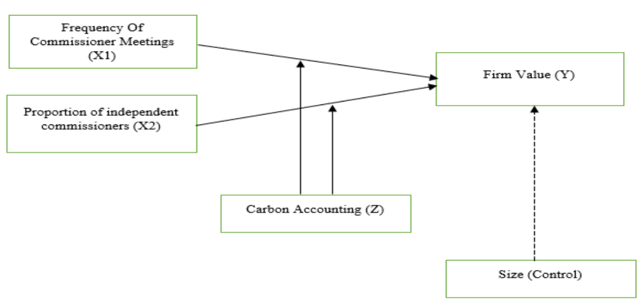

Figure 1: The Conceptual Framework

III. RESEARCH METHOD

This research uses a quantitative approach, and the type of research used is associative research with causal relationships. The scope of this research topic is a statistical study, so the coverage is broad but not in-depth. The data collection method is archival data. Data was obtained from Bloomberg and the sample company website. The unit of analysis is the coal sub-sector mining companies listed on the Indonesia Stock Exchange.

The mining businesses in the coal subsector that are listed on the Indonesia Stock Exchange between 2020 and 2022 comprise the research's population. A purposive sample with several criteria is used in the sampling technique. The corporation releases Financial Statements and Annual Reports in succession from 2020 to 2022, does not conduct mergers/acquisitions and presents all the information needed in this study. Based on these criteria, 22 mining companies in the coal sub-sector were obtained with 66 data observations.

The operationalization of variables in this study includes, among others, the company's value, which is the dependent variable. A firm's status is described by its company value, which is an evaluation specifically given by investors who are thinking of the company's positive and negative financial performance. (Amaliyah & Herwiyanti, 2019). Price book value is defined as the ratio between stock price and book value per share (Helennia et al., 2022). The number of independent commissioners and the frequency of commissioner sessions are variables that are independent. The frequency of Board of Commissioner meetings is measured by how many times the commissioners' meeting is held during a calendar year (Mardiyati, 2016). Proportion of independent commissioners. The Board of Commissioners includes the Board of Commissioners within the company and the Board of Commissioners outside the company who have no family relationship or professional relationship with the company, which is often referred to as independent commissioners. By dividing the number of independent commissioners by the total number of Board of Commissioner individuals, one can get the percentage of independent commissioners (Amaliyah & Herwiyanti, 2019). The moderating variable used in this study is carbon accounting (Z). We developed a "checklist" for data classification that identifies the degree of voluntary disclosures about carbon emissions and climate change that are included in reports that are accessible to the general public. This variable determined five broad categories relevant to climate change and carbon emissions as follows: climate change risks and opportunities (CC), greenhouse gas (GHG) emissions accounting, energy consumption accounting (EC) greenhouse gas reduction (RC), and carbon cost and emissions accountability (ACC). Within these five categories, 18 specific items were identified (Choi et al., 2013). The control variable is firm size. The assets on the balance sheet that make up the entire firm value represent the firm's size. The worth of the asset was therefore determined in this study by taking the overall asset logarithm, as shown below, and normalizing total assets (Kusuma & Dosinta, 2023).
The analysis model used in this research is MRA (Moderated Regression Analysis). The hypothesis of this study was tested with the following model:

$$PBV = a + \beta 1Frequency + \beta 2Independence + \beta 3Size + \beta 4(Frequency*Carbon) + \beta 5(Independence*Carbon) + e$$

Description:
PBV = Price Book Value for Proxy Firm Value
α = Konstanta
β1, β2 etc = Regression Coeficient
Frequency = frequency of commissioner meetings
Independence = Proportion of independent commissioners
Size = Firm size
Carbon = Carbon accounting disclosure
e = error

IV. RESULTS AND DISCUSSION

A) Description Statistic

Table 2: Descriptive Statistics

	N	Min	Max	Mean	SD	Variance
PBV	66	.28	23.83	1.9900	2.92274	8.542
Frequency	66	2	17	6.79	2.826	7.985
Proportion	66	33.33	80.00	51.4364	11.42361	130.499
Carbon	66	11.11	77.78	50.7576	20.48524	419.645
Size	66	12.80	27.80	20.0471	3.92510	15.406
Valid N (listwise)	66					

In the table above, the average PBV value is 1.99 times, which means that the average share price of mining companies in the coal sub-sector is considered high, which indicates a high company value. The minimum value is 0.28 times owned by

DEWA in 2021, and the maximum value is 23.83 times owned by BYAN in 2022. The average value of the frequency of commissioners' meetings is 6.79 times a year, which means that the average implementation of commissioners' meetings in a year is in accordance with OJK regulations, namely that they must hold meetings at least 1 (one) time in 2 (two) months, which in total is at least 6 times a year. The minimum value of 2 is owned by DOID in 2020, and the maximum value of 17 is owned by PTBA in 2022. There are 51.43% independent commissioners on average, which indicates that the average percentage of independent commissioners of mining companies in the Coal sub-sector has met OJK regulations, which is at least 30%. The minimum value of 33.33% is owned by BOSS and BYAN, while the maximum value of 80% is owned by DSSA. The average value of carbon accounting disclosure is 50.75%, which means that the level of disclosure related to carbon emissions of coal sub-sector mining companies is quite high, and this indicates that disclosure related to carbon accounting is considered quite important because it is related to the sustainability of the business of coal sub-sector mining companies. The minimum value is 11.11% owned by MYOH. The max value of 77.78% is owned by BUMI. The average value of company size is 20.04 times, which means that the coal sub-sector mining company is a large company category and has large total assets as well. PTRO owns the minimum value of 12.80 times, and the maximum value of 27.80 times is owned by SMMT.

B) Assumption Classic Test

The study's findings demonstrate the independence of the traditional assumption tests, which include those for autocorrelation, heteroscedasticity, multicollinearity, and normality.

C) Moderated Regression Test

Table 3: Model Summary d

					Change Statistics				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**R Square Change**	**F Change**	**df1**	**df2**	**Sig. F Change**
1	.350[a]	.123	.080	.70898	.123	2.894	3	62	.042
2	.353[b]	.125	.067	.71393	.002	.143	1	61	.707
3	.354[c]	.125	.036	.72573	.000	.017	2	59	.984

a) Predictors: (Constant), Size, Proportion, Frequency
b) Predictors: (Constant), Size, Proportion, Frequency, Carbon
c) Predictors: (Constant), Size, Proportion, Frequency, Carbon, X1M, X2M
d) Dependent Variable: ln_PBV

In Table 4 above, it can be seen that there are three types of models, MODEL1 to 3, which correspond to the predictors in the regression. When model 1 (which contains frequency, proportion and size only) the predictor contribution is 12.3% (see R-Square). The F value is 2.894 ($p=0.042$; $p<0.05$). Meaning that frequency, proportion, and size can significantly predict the value of the company. Model 2 carbon accounting is included in the regression but is not able to predict the value of the company well, and the relationship strengthens from 12.3% to 12.5%, although not significant as evidenced by ($p=0.707$; $p>0.05$). Model 3 included interaction variables between frequency*carbon and proportion*carbon, showed insignificant results ($p>0.984$; $p<0.05$) and no change in R-Square where before and after the value was 12.5%. It can be concluded that frequency*carbon and proportion*carbon are not able to predict firm value. In addition, carbon accounting variables cannot influence the correlation between the percentage of independent commissioners on firm value and the frequency of commissioner meetings.

D) Hypothesis Test

Table 4: Coefficients[a]

Model		**Unstandardized Coefficients B**	**Unstandardized Coefficients Std. Error**	**Standardized Coefficients**	**t**	**Sig.**
1	(Constant)	.377	.640		.589	.558
	Frequency	.013	.032	.051	.416	.679
	Proportion	-.020	.008	-.313	-2.572	.013
	Size	.046	.024	.245	1.945	.056
2	(Constant)	.307	.671		.458	.649
	Frequency	.013	.032	.049	.398	.692
	Proportion	-.021	.008	-.318	-2.580	.012
	Size	.046	.024	.246	1.943	.057
	Carbon	.002	.004	.046	.378	.707
3	(Constant)	.611	1.829		.334	.740

	Frequency	.000	.105	-.002	-.004	.996
	Proportion	-.024	.026	-.375	-.924	.359
	Size	.045	.025	.240	1.791	.078
	Carbon	-.003	.029	-.094	-.119	.906
	X1M	.000	.002	.068	.127	.899
	X2M	6.840E-5	.000	.118	.146	.885

In Table 4 results regression 1 as was seen above, the impact of commissioners' conference frequency on firm value has a coefficient value of 0.013, the t value is 0.398, and the significance is 0.692. From these results, it proves that the frequency of commissioner meetings has a favorable relationship direction but no appreciable impact on business value. The coefficient value of the proportion of independent commissioners on firm value is -0.021, the t value is -2.572, and the significance is 0.013. These findings demonstrate that the percentage of independent commissioners significantly and negatively affects corporate value. The value of the company decreases with an increase in the percentage of independent commissioners.

In the table results regression 2 above, it can be seen that the coefficient value of the effect of the frequency of commissioners' meetings on firm value is 0.013, the t value is 0.416, and the significance is 0.679. From these results it proves that the frequency of commissioner meetings has no significant effect on firm value with a positive relationship direction. The coefficient value of the proportion of independent commissioners on firm value is -0.020, the t value is -2.580, and the significance is 0.012. These findings demonstrate that the percentage of independent commissioners significantly and negatively affects corporate value. The greater the proportion of independent commissioners, the smaller the value of the company. The coefficient value of carbon accounting is 0.002, the t-value is 0.378, and the significance is 0.707. These results prove that carbon accounting has no significant effect on firm value.

The table results in regression 3 above show that the coefficient value of the interaction variable (frequency X carbon) is 0.000, the t value is 0.127, and the significance is 0.899. The coefficient value of the interaction variable (proportion X carbon) is 6.840E-5, the t value is 0.146, and the significance is 0.885. From these two results show that the two variables, namely the frequency of commissioner meetings and the proportion of independent commissioners, are unable to provide interaction (moderating) on the relationship with firm value.

E) Discussion

The first hypothesis, which states that the regularity of commissioner meetings has no discernible impact on the company's worth, is rejected in light of the findings of the preceding hypothesis testing. The frequency of meetings is only a formality and is not discussed in detail. Therefore, meetings are not effective for discussing company developments and updates regarding the company. The more often board meetings are held, the higher the cost. These results are in line with research conducted by Lestari and Triyani (2017), who found that the frequency of commissioner meetings has no significant effect on firm value. In the second hypothesis accepted, namely the proportion of independent commissioners has a significant effect on firm value. The number of independent commissioners will affect investors' desire to invest. The worth of the company will rise in proportion to the number of shareholders it has. This is consistent with the study by Halim (2021) that shows the percentage of independent commissioners significantly impacts corporate value. This is because the increasing number of independent commissioners will provide maximum supervision so that the possibility of errors and fraud committed by the company's internal parties can be avoided, thus encouraging the creation of financial reporting transparency that makes investors feel confident in entrusting their capital to the company. In the third and fourth hypotheses, the results are rejected where carbon accounting cannot moderate (provide interaction) the frequency of commissioner meetings and the proportion of independent commissioners. This happens because the disclosure of carbon accounting in Indonesia is still voluntary, so there are still many companies, especially mining companies in the coal sub-sector, that have not disclosed much. In addition, the cost of disclosure related to carbon emissions is very expensive. Hence, the items disclosed are still few, and stakeholders lack information for investment decisions, which ultimately affects the value of the company.

V. CONCLUSION

Transparency, accountability, responsibility, and fairness are the four primary requirements of the Good Corporate Governance (GCG) concept that businesses must meet in order to enhance the quality of financial statements and decrease deviant activities on financial statements. The company needs to meet these four requirements in order for investors to be interested in investing in it and for its value to be high. In addition, disclosure regarding the impact of carbon emissions produced by coal mining companies in the coal sub-sector is necessary for the company's sustainability.

Based on the research that has been completed, only the percentage of independent commissioners significantly affects the value of the company. This demonstrates how the independent Board of Commissioners' efficient oversight of management will reduce conflicts of interest and send an encouraging signal to the Board about its responsibilities, both of which will eventually affect company value. The frequency of commissioner meetings does not have a significant effect on firm value because the frequency of meetings conducted is only a formality and does not discuss detailed matters related to improving the company's performance. Hence, the meeting becomes ineffective, and the results cannot make investors obtain relevant information related to stock prices. Carbon accounting variables cannot moderate the frequency of commissioners' meetings and the proportion of independent commissioners on firm value because the level of disclosure in Indonesia is still voluntary, and the cost of disclosure is very expensive.

The limitations in this study are related to the small sample size, namely only the Coal subsector, so the results are less representative and further research suggestions for carbon accounting measurements can use the number of sheets disclosed in the sustainability report.

VI. REFERENCES

[1] Alijoyo, A., & Sirait, K. B. (2022). the Existence and Role of Independent Board Members and Their Impact on the Board'S Effectiveness and Firm'S Value: the Case of the Emerging Market. *Corporate Governance and Organizational Behavior Review*, *6*(2 Special Issue), 206–216. https://doi.org/10.22495/cgobrv6i2sip4

[2] Amaliyah, F., & Herwiyanti, E. (2019). Pengaruh Kepemilikan Institusional, Dewan Komisaris Independen, Dan Komite Audit Terhadap Nilai Perusahaan Sektor Pertambangan. *Jurnal Akuntansi*, *9*(3), 187–200

[3] Andreou, P. C., Karasamani, I., Louca, C., & Ehrlich, D. (2017). The impact of managerial ability on crisis-period corporate investment. *Journal of Business Research*, *79*(May), 107–122. https://doi.org/10.1016/j.jbusres.2017.05.022

[4] Anwar, K. (2023). Pengaruh good corporate governance terhadap nilai perusahaan. *INOVASI: Jurnal Ekonomi, Keuangan Dan Manajemen*, *19*(2), 282–288

[5] Bahriansyah, R. I., & Ginting, Y. L. (2022). Pengungkapan Emisi Karbon Terhadap Nilai Perusahan dengan Media Exposure Sebagai Variabel Moderasi. *JRAP (Jurnal Riset Akuntansi Dan Perpajakan)*, *9*(02), 226–237

[6] Bosse, D. A., & Phillips, R. A. (2016). Agency theory and bounded self-interest. *Academy of Management Review*, *41*(2), 276–297. https://doi.org/10.5465/amr.2013.0420

[7] Choi, B. B., Lee, D., & Psaros, J. (2013). An analysis of Australian company carbon emission disclosures. *Pacific Accounting Review*, *25*(1), 58–79. https://doi.org/10.1108/01140581311318968

[8] Donaldson, L., & Davis, J. H. (1991). Stewardship Theory or Agency Theory: CEO Governance and Shareholder Returns. *Australian Journal of Management*, *16*(1), 49–64. https://doi.org/10.1177/031289629101600103

[9] Dwijayanti, P. F. (2011). Manfaat Penerapan Carnon Accounting Di Indonesia. *Jurnal Akuntansi Kontemporer*, *3*(1), 79092

[10] Grediani, E., Yustrianthe, R. H., & Niandari, N. (2020). Pengaruh Corporate Governance terhadap Pengungkapan Emisi Gas Rumah Kaca dengan Peran Audit Internal sebagai Pemoderasi. *Jurnal Ilmiah Akuntansi*, *5*(2), 285–307.

[11] Halim, A. (2021). Pengaruh proporsi dewan komisaris independen, cash holding dan profitabilitas terhadap nilai perusahaan pada perusahaan manufaktur sektor industri barang konsumsi di bursa efek indonesia. *Jurnal FinAcc*, *6*(1), 116–127

[12] Hardiyansah, M., Agustini, A. T., & Purnamawati, I. (2021). The Effect of Carbon Emission Disclosure on Firm Value: Environmental Performance and Industrial Type. *Journal of Asian Finance, Economics and Business*, *8*(1), 123–133. https://doi.org/10.13106/jafeb.2021.vol8.no1.123

[13] Helennia, F. S., Abbas, D. S., Hamdani, & Rohmansyah, B. (2022). Pengaruh Competitive Advantage, Capital Intensity, Return on Asset, Thin Capitalization Terhadap Firm Value. *Jurnal Mahasiswa: Jurnal Ilmiah Penalaran Dan Penelitian Mahasiswa*, *4*(4), 26–40. https://doi.org/10.51903/jurnalmahasiswa.v4i4.432

[14] Herninta, T. (2019). Faktor-Faktor yang Mempengaruhi Nilai Perusahaan Manufaktur Di Bursa Efek Indonesia. *Jurnal Manajemen Bisnis*, *22*(3), 325–336

[15] Kelvin, C., Daromes, F. E., & Ng, S. (2017). Pengungkapan Kinerja Lingkungan Sebagai Mekanisme Peningkatan Kinerja untuk Menciptakan Nilai Perusahaan. *Dinamika AKuntansi, Keuangan Dan Perbankan*, *6*(1), 1–18. https://doi.org/10.33395/owner.v6i4.1086

[16] Kurnia, P., Emrinaldi Nur, D. P., & Putra, A. A. (2021). Carbon emission disclosure and firm value: A study of manufacturing firms in Indonesia and Australia. *International Journal of Energy Economics and Policy*, *11*(2), 83–87. https://doi.org/10.32479/ijeep.10730

[17] Kusuma, D. A., & Dosinta, N. F. (2023). Effects of Green Accounting, Corporate Social Responsibility on Firm Value. *IRJEMS (International Research Journal of Economics and Management Studies)*, *2*(4), 290–299. https://doi.org/10.56472/25835238/IRJEMS-V2I4P133

[18] Lestari, D., Santoso, B., & Hermanto. (2020). Pengaruh Dewan Komisaris, Komite Direksi dan Enterprise Risk Management Disclosure terhadap Nilai Perusahaan. *E-Jurnal Akuntansi*, *30*(4), 945. https://doi.org/10.24843/eja.2020.v30.i04.p12

[19] Lestari, W., & Triyani, Y. (2017). Analisis Pengaruh Investment Opportunity Set Dan Komponen Corporate Governance Terhadap Nilai Perusahaan. *Jurnal Akuntansi Manajemen*, *6*(1), 1–17

[20] Luo, L., & Tang, Q. (2014). Does voluntary carbon disclosure reflect underlying carbon performance? *Journal of Contemporary Accounting and Economics*, *10*(3), 191–205. https://doi.org/10.1016/j.jcae.2014.08.003

[21] Mardiyati, U. (2016). Pengaruh Frekuensi Rapat Dewan Direktur Dan Jumlah Direktur Perempuan Terhadap Kinerja Perbankan. *EKUITAS (Jurnal Ekonomi Dan Keuangan)*, *20*(2), 172–187. https://doi.org/10.24034/j25485024.y2016.v20.i2.51

[22] Pitrakkos, P., & Maroun, W. (2020). Evaluating the quality of carbon disclosures. *Sustainability Accounting, Management and Policy Journal*, *11*(3), 553–589. https://doi.org/10.1108/SAMPJ-03-2018-0081

[23] Rahmawati, A., Tsamrotussaadah, I., Salsabila, Z., & Maulana, A. (2021). Peran Akuntansi Karbon Pada Perusahaan Dalam Pencegahan Global Warming. *Jurnal Riset Akuntansi Dan Keuangan*, *17*(2), 77. https://doi.org/10.21460/jrak.2021.172.399

[24] Spence, M. (1973). Job Market Signaling. *Quarterly Journal of Economics*, 355–374

[25] Tamrin, M. dan Maddatuang, B. (2019). Penerapan Konsep Good Corporate Governance Dalam Industri Manufaktur Di Indonesia. Bogor: PT Penerbit IPB Press

[26] Umbing, G. B., Yuniati, A., Rosel, Angelica, N., Perkasa, A., & Nathaniel, T. J. (2022). Pengaruh Atribut Dewan Terhadap Nilai Perusahaan. *Jurnal Ekonomi Integra*, *12*(2), 166–181. http://journal.stieip.ac.id/index.php/iga

[27] Wahidahwati, W., & Ardini, L. (2021). Corporate Governance and Environmental Performance: How They Affect Firm Value. *Journal of Asian Finance, Economics and Business*, *8*(2), 953–962. https://doi.org/10.13106/jafeb.2021.vol8.no2.0953

[28] Wahyuni, P. D. (2019). Relevance of Good Corporate Governance and Financial Leverage on Firm Value. *Research Journal of Finance and Accounting*, *10*(14), 137–143. https://doi.org/10.7176/RJFA

[29] Yuliandhari, W. S., Saraswati, R. S., & Rasid Safari, Z. M. (2023). Pengaruh Carbon Emission Disclosure, Eco-Efficiency dan Green Innovation Terhadap Nilai Perusahaan. *Owner (Riset & Jurnal Akuntansi)*, *7*(2), 1526–1539. https://doi.org/10.33395/owner.v7i2.1301