THE EFFECT OF CEO CHARACTERISTICS AND CARBON EMISSION DISCLOSURE ON FIRM PERFORMANCE WITH BUSINESS ETHICS DISCLOSURE AS A MODERATING VARIABLE

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ABSTRACT

This study examines the effect of CEO characteristics and carbon emission disclosure (CED) on firm performance with business ethics disclosure (BED) as a moderating variable. The conclusion from this study is that CEO education and CED significantly affect a firm's financial performance. Meanwhile, CEO tenure and age do not significantly affect a firm's financial performance. BED can moderate the influence of CEO education and CEO age on a firm's financial performance. However, neither CEO characteristics nor CED had any significant effect on non-financial performance. In addition, BED does not moderate the effect of CEO characteristics and CED on non-financial performance.

Keywords: CEO Characteristics; Carbon Emission Disclosure; Business Ethics Disclosure

ABSTRAK

Penelitian ini bertujuan untuk meneliti pengaruh CEO characteristics dan carbon emission disclosure (CED) terhadap kinerja perusahaan dengan business ethics disclosure (BED) sebagai variabel moderasi. Kesimpulan dari penelitian ini yaitu CEO education dan CED berpengaruh signifikan terhadap kinerja keuangan perusahaan. Sementara CEO tenure dan CEO age tidak berpengaruh signifikan terhadap kinerja keuangan perusahaan. BED mampu memoderasi pengaruh CEO education dan CEO age terhadap kinerja keuangan perusahaan. Namun untuk kinerja non keuangan, baik CEO characteristics dan CED tidak berpengaruh signifikan terhadap kinerja non keuangan tersebut, serta BED tidak memoderasi pengaruh CEO characteristics dan CED terhadap kinerja non keuangan.

Kata Kunci : *Karakteristik CEO; Pengungkapan Emisi Karbon; Pengungkapan Etika Bisnis*
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INTRODUCTION

Since the problem of climate change due to greenhouse gas (GHG) emissions has become increasingly widespread and dangerous, how to cope with change globally is becoming an important topic today (He et al., 2019). On February 9, 2020, the temperature on the Antarctic continent rose beyond 20 degrees Celsius for the first time (Hu & Yang, 2021). Data published by the Union of Concerned Scientists (2022) shows that Indonesia is included in the top 10 emitters of annual carbon dioxide (CO_2). Countries emit annual carbon dioxide (CO_2) emit combustion from coal, natural gas, oil, and other fuels, including industrial waste and non-renewable urban waste.

Climate Transparency (2018) states that industry is one of Indonesia's most significant contributors to carbon emissions. However, environmental exposure is still voluntary in the annual report firms in Indonesia (Abdullah et al., 2020; Apriliana et al., 2019; Kurnia et al., 2021; Ratmono et al., 2021). Thus, disclosure of the carbon emissions they produce in the annual report will depend on the firm itself (Abdullah et al., 2020; Ratmono et al., 2021). Indonesia currently lacks regulations requiring the disclosure of carbon emission costs (Akhiroh & Kiswanto, 2016). As one of the most significant contributors to CO_2 emissions (industry), disclosure on this matter should be very important. Therefore, this study examines whether carbon emission disclosures affect firm performance from a financial and non-financial perspective.

In addition to financial information, environmental disclosure is a process of communicating to shareholders regarding the environmental effects of the firm. It is like assuming that firms are responsible for creating value for their shareholders (Ahmadi & Bouri, 2017). Stakeholder theory states that an entity seeks to align its activities with stakeholder expectations through corporate social reporting communication channels. Firms have used sustainability reporting and assurance of sustainability reports to fulfill their accountability to their stakeholders (Junior et al., 2014). The creation of this value cannot be separated from the firm's leader. Ernst and Young (EY), through the EY Entrepreneur of the Year award, recognizes leaders consisting of visionaries who transform to create, innovate, grow, learn, and develop a better world (Ernst & Young, 2021). These leadership roles and styles are, of course, formed from the characteristics of firm leaders or CEO characteristics.

The effect of the firm leadership characteristics and leadership style is significant because it will impact financial and non-financial performance. Garcia-Blandon et al. (2019) state that many previous studies only examined the association between CEO characteristics and financial performance. In their study, Garcia-Blandon et al. (2019) provide examples, including the length of service at the organization (Henderson et al., 2006; Hambrick & Fukutomi, 1991), determination of a CEO—from the internal or external of the firm (Hoitash & Mkrtchyan, 2018; Karaevli & Zajac, 2013), country of origin of the CEO (Boone et al., 2019; Ioannou & Serafeim, 2012; Crossland & Hambrick, 2011), educational background of the CEO (Miller & Xu, 2019; Gottesman & Morey, 2010; Mintzberg, 2004) or the age of the CEO (Belenzon et al., 2019; Barker & Mueller, 2002; Hambrick & Mason, 1984). However, there is still little evidence to show that CEO characteristics influence financial and non-financial corporate performance, even though CEOs significantly influence strategic decisions and organizational achievements in their companies (Nguyen et al., 2018). Based on this, as well as what has been discussed in the preceding paragraph, the second objective of this study is to investigate the effect of CEO characteristics on firms' financial or non-financial performance.

Stakeholder theory highlights that balancing of interests of all stakeholders and acting in the best interests of all stakeholders are aimed at the management job (He et al., 2019). Corporate governance systems are often meant to defend the interests of shareholders and corporate stakeholders. Furthermore, Hossain et al. (2017) support stakeholder theories that Boards of Directors serve as a liaison mechanism between enterprises and their stakeholders, as well as providing legitimacy to diverse stakeholder groups in society. Then, based on the legitimacy theory, the firm will focus on its relationship with society through regulations made by the government (Rusli et al., 2019).

Efforts to decrease and disclose carbon emissions and characteristics will only be successful if ethical leaders support them. Plinio (2009) states that ethical leadership is a way for leaders to act in a context and culture-appropriate manner, setting a "tone" and creating an organizational culture that effectively develops and empowers people within the organization so that products, services, and organizational mission are promoted and improved while building their civil society. Ethical practice and behavior must become a habit for the organization to survive for a long time. Thus, business ethics is a moderating variable in this study. The study conducted by Waweru (2020) shows a significant and positive influence between corporate governance characteristics and business ethics disclosure.

Based on the context provided, the problem formulation in this study is whether CEO characteristics and carbon emission disclosures affect firm performance. The following problem formulation is whether carbon disclosure emissions can moderate the effect of CEO characteristics and carbon disclosure emissions on firm performance.

The significance of this study is that, based on our understanding, previous studies relating to the effect of CEO characteristics, CED, and company financial performance moderated by disclosure of business ethics in Indonesia still need to be improved. Therefore, it is a significant contribution to this study.

METHOD

The populations of this research are public firms listed on the Indonesia Stock Exchange (IDX), with a sample of firms registered in the 2017-2020 period. The sampling method used purposive sampling and obtained a sample of 48 firms (192 observations) to be analyzed in this study. The data in this study is secondary data accessed through the official website of the Indonesia Stock Exchange (www.idx.com) or firm websites and other sources related to the data needed for research.

The dependent variable is the firm's financial performance and non-financial performance. Measuring firm financial performance is calculated by profitability ratios, where one measurement is used to measure management performance in managing firm assets, namely return on assets/ROA (Rusli et al., 2019).

$$ROA = \frac{\text{Net Income}}{\text{Total Asset}} \times 100\% \qquad \text{(Equation 1)}$$

Non-financial performance measurement is measured by following Chandra & Augustine (2019). Non-financial performance is measured using the award, namely the number of awards and certifications owned by the firm.

The independent variables and moderating variables are CEO Characteristics which use the variables CEO tenure, CEO educational background, CEO age, and carbon emission disclosure, as well as business ethics disclosure as measured by measurements as shown in Table 1.

Table 1. Description of Independent Variables and Moderating Variables

Variable	Abbreviation	Description
CEO tenure	TEN	Length of time as CEO in the firm (Naseem et al., 2020).
CEO education	EDU	The value given to the level of education and whether the background is economic education or non-economic (Naseem et al., 2020; Garcia-Blandon et al., 2019; and modified by the researchers).
CEO age	AGE	CEO age - in years (Garcia-Blandon et al., 2019; Naseem et al., 2020).
Carbon Emission Disclosure	CED	Measurements from Choi et al. (2013); Rusli et al. (2019).
Business Ethics Disclosure	BED	Ethics disclosure checklist from Waweru (2020).

The equation of this study is as follows:

$ROA = \alpha+\beta_1TEN+ \beta_2EDU+ \beta_3AGE+ \beta_4CED + \beta_5TEN*BED+ \beta_6EDU*BED+ \beta_7AGE*BED+ \beta_8CED*BED+ e$ ……………………………..…..…………..……….(Equation 2)

$Award = \alpha+\beta_1TEN+ \beta_2EDU+ \beta_3AGE+ \beta_4CED + \beta_5TEN*BED+ \beta_6EDU*BED+ \beta_7AGE*BED+ \beta_8CED*BED +e$ …………………………………………………...(Equation 3)

Description*:*

ROA = Dependent variable/Firm Financial Performance
Award = Dependent variable/Firm Non-Financial Performance
α = Constant
β_{1-4} = Independent variable
β_{5-8} = Moderating variable
TEN = CEO Tenure
EDU = CEO Educational background
AGE =CEO Age
CED = Carbon Emission Disclosure
BED = Business Ethics Disclosure

RESULT AND DISCUSSION

Respondent demographic data for tenure are as follows. CEO tenure is 0-35 years, with the mean of tenure 4.9 years. The tenure of CEOs is mainly in the 0–5-year category, with 81% in 2017 and 2018 and 77% in 2019 and 2020. CEOs with more than 20 years of service are generally founders of firms and or owners (or belonging to the CEO's family), such as PT Japfa Comfeed Indonesia Tbk. If we relate years of service to age, most CEOs with up to five years of experience are between the ages of 51 and 60. They were hired because they previously worked in a similar industry, such as the President Director of PT Aneka Tambang Tbk, who was hired from the state-owned mining holding company, Inalum (Kumparan Bisnis, 2019). It is the same as the President Director of CIMB Niaga, who previously worked as a banker at Citi Indonesia (Alfi, 2021). However, there are also president directors who, before being appointed, have a career in a group of firms, for example, PT Astra Argo Lestari Tbk (Astra Argo, 2023). Demographic data of research respondents for CEO characteristics for tenure are presented in detail in Table 2.

Table 2. CEO Characteristic – Tenure

Tenure	2020		2019		2018		2017	
	Amount	(%)	Amount	(%)	Amount	(%)	Amount	(%)
0-5	37	77	37	77	39	81	39	81
6-10	4	8	5	10	4	8	5	10
11-15	3	6	2	4	1	2	0	0
16-20	1	2	1	2	1	2	2	4
21-25	1	2	1	2	1	2	0	0
26-30	0	0	0	0	0	0	0	0
31-35	2	4	2	4	2	4	2	4
>36	0	0	0	0	0	0	0	0
Total	48	100	48	100	48	100	48	100

Levels of education begin in high school and progress downward, with each level receiving an additional economic education background. Master's Degrees and economic backgrounds were the most common in education from 2017 to 2020, accounting for 42% (2017), 44% (2018), and 38%, respectively (2019 and 2020). Table 3 details the demographic data of the research respondents for the characteristics of the CEO - educational background.

Table 3. CEO Characteristic – Education Background

Value	Level of Education	2020		2019		2018		2017	
		Amount	(%)	Amount	(%)	Amount	(%)	Amount	(%)
1	HS	0	0	0	0	0	0	0	0
2	HS-Ek	0	0	0	0	0	0	0	0
3	D1	0	0	0	0	0	0	0	0
4	D1-EK	0	0	0	0	0	0	0	0
5	D2	0	0	0	0	0	0	0	0
6	D2-EK	0	0	0	0	0	0	0	0
7	D3	0	0	0	0	0	0	0	0
8	D3 Ek	0	0	1	2	1	2	1	2
9	D4/S1	14	29	13	27	12	25	12	25
10	D4/S1 -Ek	10	21	10	21	11	23	11	23
11	S2	3	6	2	4	1	2	1	2
12	S2 – EK	18	38	18	38	21	44	20	42
13	S3	1	2	2	4	0	0	1	2
14	S3- EK	2	4	2	4	2	4	2	4
	Total	48	100	48	100	48	100	48	100

The CEO's age ranged from 37 to 72 years for the observed firms. The average age is 54.25 years, and most CEOs are in the 50+ year category. From 2017 to 2019, the most significant percentage was in the age group 51-55 years, with values of 42%, 38%, and 40%. Then in 2020, the most significant percentage will be in the 56–60-year age group. The demographic data of research respondents for CEO-age characteristics are presented in detail in Table 4.

Table 4. CEO Characteristic – Age

Age	2020		2019		2018		2017	
	Amount	(%)	Amount	(%)	Amount	(%)	Amount	(%)
37-40	1	2	1	2	0	0	0	0
41-45	0	0	3	6	3	6	4	8
46-50	8	17	6	13	10	21	10	21
51-55	15	31	19	40	18	38	20	42
56-60	16	33	12	25	11	23	8	17
61-65	7	15	6	13	5	10	5	10
66-70	0	0	0	0	1	2	1	2
>70	1	2	1	2	0	0	0	0
	48	100	48	100	48	100	48	100

For CED, firm disclosures increase from year to year for each indicator, and the highest disclosures are in climate change: risk and opportunities, with an average disclosure from 2017-2020 of 0.43. It shows that firms are increasingly aware of the importance of issues regarding risks and opportunities from climate change. In total, the average disclosure per year (2017-2020), namely: 0.17, 0.21, 0.30, and 0.36. The demographic data of research respondents for CED characteristics are presented in detail in Table 5.

Table 5. Carbon Emission Disclosure

Categories	Av 2020	Av 2019	Av 2018	Av 2017	Average
Climate change (CC): Risks and opportunities	0.55	0.51	0.39	0.27	0.43
GHG emissions accounting	0.32	0.25	0.15	0.13	0.21
Energy consumption accounting	0.41	0.38	0.33	0.28	0.35
GHG reduction and cost	0.31	0.26	0.21	0.16	0.23
Carbon emission accountability	0.38	0.27	0.14	0.08	0.22
Total	0.36	0.30	0.21	0.17	0.26

For BED, firm disclosure for each category increases from year to year, and the highest disclosure is in environmental protection, with an average disclosure ratio throughout 2017-2020 of 0.8. Environmental protection is indeed a hot issue at the moment and, for the average BED disclosure per year (2017-2020), namely, 0.69, 0.71, 0.74, and 0.77. Detailed data are presented in Table 6.

Table 6. Business Ethics Disclosure

Categories	Av. 2020	Av. 2019	Av. 2018	Av. 2017	Average
Environmental protection	0.86	0.80	0.78	0.74	0.80
Employee	0.77	0.77	0.74	0.70	0.75
Community	0.81	0.77	0.73	0.71	0.75
Customer	0.74	0.73	0.68	0.67	0.71
Investor	0.66	0.64	0.63	0.61	0.64
Total	0.77	0.74	0.71	0.69	0.73

For ROA, Table 7 shows that the standard deviation of ROA is higher than the mean. It shows that the structure of the sample firm is high for this ROA. The standard deviation is higher than the mean (but insignificant). It shows that the data is well distributed (the standard deviation is just a short distance from the mean). The lowest

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ROA was at PT Garuda Maintenance Facility Aero Asia Tbk in 2020. PT Garuda Maintenance Facility Aero Asia Tbk is a Maintenance, Repair, and Overhaul - MRO firm (GMF, 2020). The highest ROA was at PT Multi Bintang Indonesia Tbk in 2017. PT Multi Bintang Indonesia Tbk produces alcoholic beverages (class A) and non-alcoholic beverages (Multi Bintang Indonesia, 2017).

The number of awards, awards, and certifications owned by the firm is described as follows. The highest award amounts were for pharmaceutical & health research sub-sector firms, multi-sector industry holdings, and banking, and the lowest was for financing services, metal and mineral mining, and trade and investment services. The highest and lowest average amounts per firm and year are very far apart. Descriptive statistics are presented in Table 7.

Table 7. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	192	-.66	.71	.0564	.13064
AWARD	192	2	110	29.75	20.570
TEN	192	0	35	4.90	7.290
EDU	192	8	14	10.77	1.511
AGE	192	37	72	54.26	5.700
CED	192	.04	.74	.3577	.19335
BED	192	.34	.97	.7246	.15269
Valid N (listwise)	192				

Model 1 test results are in Table 8.

$ROA = \alpha+\beta_1 TEN+ \beta_2 EDU+ \beta_3 AGE+ \beta_4 CED + \beta_5 TEN*BED+ \beta_6 EDU*BED+ \beta_7 AGE*BED+ \beta_8 CED*BED+ e$ ……………………………..………………….(Equation 2)

Table 8. Model 1 Statistical Test Results

ROA	Coef.	Robust Std. Err.	Z	p>|z|	[95% Conf. Interval]	
TEN	-.0076	.0062	-1.23	0.217	-.0197	.0045
EDU	-.0682	.0324	-2.10	0.036	-.1318	-.0046
AGE	.0135	.0076	1.78	0.075	-.0013	.0283
CED	-.4131	.1982	-2.08	0.037	-.8015	-.0246
BEDTEN	.0110	.0098	1.12	0.262	-.0083	.0304
BEDEDU	.0936	.0474	1.98	0.048	.0007	.1865
BEDAGE	-.0208	.0105	-1.97	0.048	-.0414	-.0001
BEDCED	.4201	.3032	1.39	0.166	-.1740	1.0143
_Cons	.1772	.0925	1.92	0.055	-.0041	.3585
Sigma_u	.1054					
Sigma_e	.0801					
Rho	.6339			(Fraction of variance due to u_i)		

Model 2 test results are in Table 9.

$Award = \alpha+\beta_1 TEN+ \beta_2 EDU+ \beta_3 AGE+ \beta_4 CED + \beta_5 TEN*BED+ \beta_6 EDU*BED+ \beta_7 AGE*BED+ \beta_8 CED*BED +e$ …………………………………….………………(Equation 3)

Table 9. Model 2 Statistical Test Results

Award	Coef.	Robust Std. Err.	Z	p>|z|	[95% Conf. Interval]	
TEN	.0210	1.0868	0.02	0.985	-2.1091	2.1512
EDU	-5.8888	6.4818	-0.91	0.364	-18.5930	6.8154

Award	Coef.	Robust Std. Err.	Z	p>|z|	[95% Conf. Interval]	
AGE	1.1258	1.6774	0.67	0.502	-2.1620	4.4136
CED	21.0481	29.4725	0.71	0.475	-36.7171	78.8132
BEDTEN	-.5016	1.3851	-0.36	0.717	-3.2164	2.2133
BEDEDU	8.6696	8.5663	1.01	0.312	-8.1201	25.4592
BEDAGE	-1.3955	1.8596	-0.75	0.453	-5.0403	2.2493
BEDCED	-14.7537	36.6160	-0.40	0.687	-86.5198	57.0123
_Cons	17.2356	25.1641	0.68	0.493	-32.0852	66.5564
Sigma_u	17.8771					
Sigma_e	9.2039					
Rho	.7905			(Fraction of variance due to u_i)		

The Effect of CEO Characteristics - Tenure on Firm Financial Performance

Based on the results in Table 8, the characteristics of CEOs using tenure measurements have no significant effect on ROA because the t statistic is 1.23 <1.96, and P values are 0.217 > 0.05. The results of this study support the studies of Kusumasari (2018) and Henderson et al. (2006). Kusumasari (2018) and Henderson et al. (2006) showed that CEO tenure does not significantly influence firm performance. However, CEO tenure influences firm performance when the moderating variable of industry dynamism is included. It shows that the relationship between CEO tenure and firm performance depends on the contingencies or conditions faced by the firm (Henderson et al., 2006). Therefore, how a CEO performs or is obsolete depends not on the tenure but on the contingencies or conditions they face at the firm.

Kusumasari (2018) states that the results of their study are because CEOs who have held their position for a long time will feel in a comfort zone. Then, for CEOs with a new tenure, their performance will be reviewed by stockholders in the first three years of their assignment. The study's data shows that CEOs' average tenure is 4.9 years. In this case, they have passed their assignment review period. Boards of Directors function as a liaison mechanism between firms and their stakeholders, and they provide legitimacy to various stakeholder groups in society based on stakeholder theory (Hossain et al., 2017). However, this is not the case because CEO tenure does not affect financial performance, and a longer CEO tenure does not make them further improve the firm's financial performance.

The Effect of CEO Characteristics – Education Background on Firm Financial Performance

Based on the results in Table 8, the characteristics of CEOs using education background measurements significantly affect ROA because the t statistic is 2.10 > 1.96, and P Values are 0.036 <0.05 with a negative coefficient of influence. The results of this study support the study of Garcia-Blandon et al. (2019), which states that an MBA's educational background does not strengthen CEOs' performance, both from a financial and non-financial perspective (no positive effect). Bertrand and Schoar (2003) concluded that CEOs with an MBA background are aggressive managers. According to the Corporate Finance Institute (2022), this aggressive nature will increase the risks they will take, and if a loss occurs, it will be a considerable loss. Thus, the coefficient of this study's results, which shows a negative coefficient, is consistent with the CFI's description.

The results of this study oppose the stakeholder theory. Boards of Directors should liaise between firms and their stakeholders (Hossain et al., 2017). The purpose of management's job is to balance the interests of all stakeholders in all fields/overall interests stakeholders (He et al., 2019). However, in this study, CEOs with an economic education background acted without regard for stakeholders' interests, as evidenced by research with significant results but with a negative coefficient.

The Effect of CEO Characteristics - Age on Firm Financial Performance

Based on the results in Table 8, the characteristics of the CEO using age measurement have no significant effect on ROA because the t-statistic value is 1.78 <1.96, and P Values are 0.075 > 0.05. This study's results support the research by Garcia-Blandon et al. (2019). Garcia-Blandon et al. (2019) state that CEO age is not a trigger for their performance. The results of this study were beyond predictions, where with increasing age, it should show more experience, confidence, and maturity in thinking to improve the firm's financial performance.

A young CEO may be very aggressive and improve the firm's financial performance, ultimately improving the CEO's performance. According to Naseem et al. (2019), CEO age does not linearly impact firm performance because performance declines after a certain age.

Kusumasari (2018) states that older CEOs have wisdom and knowledge. However, related to improving performance in financial performance related to the results of this study, it has yet to be an option for CEOs in terms of one of its functions as a liaison mechanism between firms and their stakeholders (Hossain et al., 2017). The results of Hossain et al. (2017) support the stakeholder theory that Boards of Directors function as a liaison mechanism between firms and their stakeholders.

Related to the results of this study which show that age has no significant effect on financial performance, Garcia-Blandon et al. (2019) state that this result could also be due to the low variability of CEO age at sample firms. In Garcia-Blandon et al. (2019), 85% of CEOs are between 50 and 65. It is also in line with this study, where the percentage of CEOs aged between 50 and 65 years amounted to 69% in 2017, 71% in 2018, 78% in 2019, and 79% in 2020.

The Effect of Carbon Emission Disclosure on Firm Financial Performance

Based on the results in Table 8, carbon emission disclosure significantly affects ROA because the t statistic is 2.08 > 1.96, and P values are 0.037 <0.05 with a negative coefficient of influence. These results support the study by Chandra & Augustine (2019), who more broadly examines the relationship between sustainability disclosure and financial performance, and the results have a negative effect. In addition, Garcia-Blandon et al. (2019) also found that ESG performance will be weaker as financial performance increases.

Chandra & Augustine (2019) state that this is most likely because the effect of this sustainability disclosure is assessed partially on the firm's financial performance. It means that any increase in firm spending on sustainability disclosures not accompanied by changes in the firm's other financial ratios leads investors to conclude that increased spending on sustainability disclosures is a good use of firm resources. As a result, increasing sustainability disclosure will have a negative impact on the firm's financial performance.

Another cause of disclosure related to sustainability has a negative effect on financial performance because the effect will be seen in the long term. Eccles et al. (2014) revealed that the performance of high-sustainability companies would significantly outperform low-sustainability companies in the long term, both in the stock market and accounting performance. However, from the other side, in the statistical descriptive section of this study, we can see that firm disclosures regarding carbon emissions have increased from year to year. It shows the awareness that, in the long term, this will benefit the firm. It shows that the firm has tried to close the gap between the firm and society. Firm legitimacy will be threatened if there is a gap between the firm and society. Firms must be part of society to get a positive perception of them (Kurnia et al., 2021).

Moderation of Business Ethics Disclosure on the Effect of CEO Characteristics - Tenure on Firm Financial Performance

Based on Table 8, the moderation of business ethics disclosure on the effect of CEO characteristics based on tenure on ROA has no significant effect because the t statistic value is 1.12 <1.96, and the P value is 0.262 > 0.05. In the discussion section on the effect of CEO tenure on the company's financial performance, we see that tenure does not affect the firm's financial performance. Kusumasari (2018) states that this result is because CEOs who have held their position for a long time will feel in a comfortable zone. Then, for CEOs with a new tenure, their performance will be reviewed by stockholders in the first three years of their assignment. The data in this study shows that the average tenure of CEOs is 4.9 years, so in this case, they have passed their assignment review period.

Henderson et al. (2006) stated that the relationship between CEO tenure and firm performance depends on the contingencies or conditions the CEO faces. Therefore, how a CEO performs or is obsolete is independent of the tenure and the contingencies or conditions they face at the firm. It is expected that the longer a CEO holds office, the more experience will make the CEO better at improving the firm's financial performance. Garcia-Blandon et al. (2019) state that CEOs with long tenures still show the best overall performance. Then, what is interesting from their study is that CEOs with long experience in firms will focus more on financial performance.

According to Karim et al. (2016), business ethics improves a company's financial performance. According to stakeholder theory, Boards of Directors serve as a liaison mechanism between firms and their stakeholders. They provide legitimacy to various stakeholder groups in society (Hossain et al., 2017); however, this does not occur in this case. Although the BED has moderated CEO tenure, it does not affect financial performance.

Financial performance will improve by implementing ethical business practices, reflected in BED and CEO with long tenures. However, the findings of this study do not support this. According to Waweru (2020), large corporations are expected to become more involved in ethical practices. As a result, when it comes to the application of business ethics, it is more appropriate to relate it to the size of the firm rather than the length of time the CEO has been CEO.

Moderation of Business Ethics Disclosure on the Effect of CEO Characteristics - Education Background on Firm Financial Performance

Based on Table 8, moderation of business ethics disclosure on the effect of CEO characteristics based on the educational background has a significant effect on ROA because the t statistic value is 1.98 > 1.96 and P Values is 0.048 <0.05 with a positive coefficient of influence. The effect of educational background on ROA is significant and has a negative coefficient. After being moderated by business ethics disclosure, CEO characteristics based on educational background significantly affect ROA with a positive coefficient, and these results support Saidu's (2019) research. Saidu (2019) states that education is essential to equip managers to make and implement sound decisions for the firm's benefit.

Nguyen et al. (2018) state that the ability of CEOs to produce firm performance can come from traceable evidence such as educational level. The descriptive statistics show that the highest sample education in this study was a Master's degree and economic background. Naseem et al. (2020) state that CEO financial education helps CEOs understand various financial problems of firms and will act following the firm's interests. The results of their study support their hypothesis that there is an influence between business education and CEO management on firm performance (finance performance) because it will assist them in making effective decisions to improve firm performance.

It also includes how they pay attention to and consider implementing this ethical business because ethical practice and behavior must become a habit. So the organization can survive for a long time. The ethical obligation ensures that the firm always acts according to high ethical standards so that the firm's reputation will be maintained, as well as the interests of all shareholders, including minority shareholders (Rossouw, 2005). Thus, the results of this study indicate that the higher the level of education and the economic background supported by ethics in doing business, the firm's financial performance will improve.

Moderation of Business Ethics Disclosure on the Effect of CEO Characteristics - Age on Firm Financial Performance

Based on Table 8, moderation of business ethics disclosure on the effect of CEO characteristics based on age has a significant effect on ROA because the t-statistic value is 1.97 > 1.96 and P-Value is 0.048 <0.05 with a negative coefficient of influence. Characteristics of the CEO using age measurement have no significant effect on ROA. However, when moderated by BED, it becomes influential with a negative coefficient. For the firms observed, from 2017 to 2019, the most significant percentage was in the 51–55-year age group with values of 42%, 38%, and 40%, then in 2020, the most significant percentage was in the range of 56 - 60 years group. CEO age can also influence their proclivity to involve in risk-taking practices. In this case, older CEOs put less money into R&D and pursue less risky investment strategies. Meanwhile, younger CEOs can more remarkably drive firms to become more profit-oriented (Naseem et al., 2020).

Goel and Ramanathan (2014) state that business ethics as a concept mutates in the context of new technologies, new ways of mobilizing and utilizing resources, developing community practices, and growing towards a globally connected business network. Growing universal awareness of the limitations of natural resources, the widening wealth gap, and the expanding presence of business in the lives of individual citizens through technologies such as big data and cloud computing are bringing business ethics to the forefront of discussions about societal norms. Therefore, if the characteristics of CEOs of this age are related to BED, then young CEOs will be very innovative and dare to make breakthroughs, for example, with the presence of these new technologies and vice versa with CEOs who are more senior in this age.

Applying ethics into a habit will make the firm survive for a long time (Rossouw, 2005), and younger CEOs realize this. These results support the study of Nguyen et al. (2018), who found that CEO age negatively affects firm financial performance. Kusumasari (2018) states that younger CEOs will be more risk takers, have a better understanding of world developments, and have faster time to make decisions so that firms will always be able to compete. These things follow their role based on the stakeholder theory that management helps stakeholders so that businesses can survive and develop in this capitalist system (Ghozali, 2020).

Moderation of Business Ethics Disclosure on the Effect of Carbon Emission Disclosure on Firm Financial Performance

Moderation of business ethics disclosure on the effect of carbon emission disclosure on ROA has no significant effect because the t statistic value is 1.39 <1.96, and P values are 0.166 > 0.05 (Table 8). Without moderation, Carbon emission disclosure had a significant adverse effect on financial performance, and this negative effect is now removed with this moderation. These results support the study of Kurnia et al. (2021), who found no effect of carbon emission disclosure on firm value. Implementing carbon emission disclosure will incur additional costs and lower cash flow. As a result, if it is related to costs, ethics cannot change it either.

Karim et al. (2016) state that ethical behavior can be illustrated by two perspectives: financial benefits and other intangible benefits. Cost reduction is the most common way for ethical firms to gain profits. Being ethical also means that the firm values the importance of being environmental. However, currently, the firm is more focused on costs. The cost factor is the main thing, although, in the long run, matters related to sustainability will benefit the firm. This condition can be seen from the percentage of disclosure of carbon emissions which is still low in Indonesia. However, what is encouraging is that there has been an increase every year (the average annual disclosures from 2017-2020, namely 0.17; 0.21; 0.30, and 0.36). Legitimacy theory rests on the idea that the organization concerned and the society in which it operates have a social contract (Ghozali, 2020). Therefore, disclosures continue to increase, indicating an improved implementation. It shows that the firm has tried to close the gap between the firm and society. Firm legitimacy will be threatened if there is a gap between the firm and society (Kurnia et al., 2021).

The Effect of CEO Characteristics - Tenure on Firm's Non-Financial Performance

Based on Table 9, the characteristics of CEOs using tenure measurements have no significant effect on non-financial performance (Awards) because the t statistic is 0.02 <1.96 and P Values are 0.985 > 0.05. Regarding the effect of CEO tenure and non-financial performance, in the initial interpretation of their study, Khan et al. (2020) found that a 1% increase in CEO tenure resulted in a decrease in corporate social & environmental performance (CS&EP) of 8.8%. The results of their study also show that CEOs pay more attention to CS&EP in their early stages in office (especially in the second and fourth years of their term) compared to the years following their tenure. CEO tenure may have a different influence on CS&EP.

Garcia-Blandon et al. (2019) state that CEOs with long tenures still show the best overall performance. What is interesting about their study is that CEOs with long experience in firms will focus more on financial performance, but newly assigned CEOs will concentrate more on sustainability issues. Triyani and Setyahuni (2020) also state that based on the stakeholder theory perspective, the relationship between the directors and disclosure of ESG (non-financial performance) aims to assist managers in improving the firm's image by providing benefits to stakeholders.

The condition of the sample from this study did not match the results of Garcia-Blandon et al. (2019). The CEO's tenure is in the 0–5-year category, with 81% in 2017 and 2018 and 77% in 2019 and 2020. For Indonesia's conditions, this may be due to issues related to sustainability that are still ongoing/mandatory (things assessed in the

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award received by the firm). Therefore, its implementation does not affect the CEO, whether CEOs with short or long tenures.

The results of this study follow the results of Henderson et al. (2006), which show that CEO tenure does not significantly influence firm performance and that firm performance will only sometimes be in line with this CEO tenure. Based on stakeholder theory, Boards of Directors function as a liaison mechanism between firms and their stakeholders, providing legitimacy to various stakeholder groups (Hossain et al., 2017). Concerning this role, the CEO has not yet focused on non-financial performance because of this voluntary disclosure.

The Effect of CEO Characteristics - Education Background on Non-Financial Firm Performance

Based on Table 9, the characteristics of CEOs using educational background measurements have no significant effect on non-financial performance because the t statistic is 0.91 <1.96, and P values are 0.364 > 0.05. These results support the research of Garcia-Blandon et al. (2019). The results of this study contradict stakeholder theory, which states that Boards of Directors serve as a liaison mechanism between enterprises and their stakeholders (Hossain et al., 2017) and that a high level of knowledge should be used to fulfill the interests of all stakeholders. However, according to the findings of this study, this has no effect. Management responsibility is not only related to financial matters but also non-financial matters. The purpose of management's job is to balance the interest of all stakeholders and all fields/overall interests of stakeholders (He et al., 2019). To respond to pressure from stakeholder groups, firms may engage in environmentally responsible practices and disclose them through communication channels (Kılıç & Kuzey, 2019).

Garcia-Blandon et al. (2019) state that an MBA's educational background does not strengthen CEOs' performance, both from a financial and non-financial perspective. Further research results of Garcia-Blandon et al. (2019) state that CEOs with an engineering educational background tend to have better performance than other CEOs in terms of ESG (sustainability performance).

The educational background in this study is economics, with most results at the master's level (with a composition from 2016-2020 of 38%-44%). Suppose we relate these data conditions to the research results. In that case, the results of this study are in line with the results of pioneer research related to the influence of CEO characteristics, namely the age and education of the CEO on firm values conducted by Bertrand and Schoar (2003). Bertrand and Schoar (2003) observed that CEOs with an MBA background are aggressive managers who pay little attention to sustainability issues. As a result, this sustainability concern must be widely disseminated. According to the findings of Garcia-Blandon et al. (2019), sustainability problems are becoming more critical in many MBA programs.

The Effect of CEO Characteristics - Age on Non-Financial Firm Performance

Based on Table 9, the characteristics of CEOs using age measurements have no significant effect on non-financial performance because the t statistic value is 0.67 <1.96 and P Values are 0.502 > 0.05. The results of this study are consistent with the findings of Garcia-Blandon et al. (2019), who determined that age is not a performance factor. CEO age might also influence their proclivity to participate in risk-taking, with older CEOs investing less in R&D and adopting less hazardous investment strategies. Meanwhile, younger CEOs have a better potential to drive enterprises to become more profit-oriented (Naseem et al., 2020). It is critical to measure firm performance in terms of non-financial performance. With the growing importance of corporate social responsibility, performance measuring just through financial metrics is seen as excessively limited (Garcia-Blandon et al., 2019).

Furthermore, Garcia-Blandon et al. (2019) noted that if financial performance focuses on the welfare of shareholders, then environmental, social, and governance issues do not only focus on shareholders but also the environment. Let us look at the characteristics of the CEO based on what Naseem et al. (2020) previously mentioned older CEOs are very conservative in investing, and young CEOs are very profit-oriented. Implementing matters related to sustainability and environmental responsibility still need to be optimally implemented. It is also true, given that disclosure in Indonesia is currently voluntary. The results of this study do not support stakeholder theory. Stakeholder theory highlights that balancing of interests of all stakeholders and acting in the best interests of all stakeholders are aimed at the management job (He et al., 2019), including those connected to enhancing non-financial performance. According to the results of this study, non-financial performance is still not a choice for CEOs in terms of one of its duties as a liaison mechanism between enterprises and their stakeholders (Hossain et al., 2017).

The Effect of Carbon Emission Disclosure on Non-Financial Performance of Firms

Based on Table 9, carbon disclosure emissions do not significantly affect non-financial performance because the t statistic is 0.71 <1.96, and P values are 0.475 > 0.05. This result is consistent with the results of Chandra & Augustine (2019), who found that sustainability disclosures had no significant effect on firm non-financial performance. Chandra & Augustine (2019) state that by paying less attention to the concept of sustainability in determining a firm's business strategy and improving non-financial performance, the firm must make extra sacrifices, such as costs for carrying out social and environmental activities.

However, Suryarahman and Trihatmoko (2021) state that good environmental disclosure is believed to be used by firms to provide added value to their stakeholders. Therefore, the results of this study indicate that regarding carbon emission disclosure, firms still consider more sacrifices in terms of the costs they must incur. As a result, even though the industry is a significant contributor to substances that destroy ozone, in the past and present, disclosure of carbon emissions is still voluntary in Indonesia (Christine et al., 2019). Thus, the application of sustainability in reducing carbon emissions is still low. Disclosure of voluntary gas emissions should reduce information asymmetry between firms and stakeholders (Kurnia et al., 2021).

Ahmadi and Bouri (2017) state that the results of their research are consistent with previous studies and provide empirical evidence that firms that belong to environmentally sensitive sectors disclose environmental information more than firms that are non-environmentally sensitive sectors. This result may also be because some firms in Indonesia still need to publish annual and sustainability reports. The results of this study are not in line with the legitimacy theory. Legitimacy theory is generally known to explain environmental and social disclosures and disclosures that are still small or lacking, indicating that the responsibility of firms is still low (Kurnia et al., 2021).

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Moderation of Business Ethics Disclosure on the Effect of CEO Characteristics - Tenure on Non-Financial Performance of Firms

Moderation of business ethics disclosure on the effect of CEO characteristics based on tenure on non-financial performance has no significant effect because the t-statistic value is 0.36 <1.96 and P Values are 0.717 > 0.05. Business ethics covers the areas of moral principles and decision-making, governance issues, and ethical codes for business (Goel & Ramanathan, 2014). The ethical obligation ensures that the firm always acts according to high ethical standards so that the firm's reputation will be maintained. It is the same as the interests of all shareholders, including minority shareholders (Rossouw, 2005). CEO tenure is a crucial part of the CEO that affects firm performance. The extended period a CEO becomes CEO will help him to prove his expertise. Also, the CEO's tenure can affect decision-making, affecting shareholders' welfare (Naseem et al., 2020).

Natonis (2019) makes the same point, stating that CEO tenure affects CEO behavior in strategic decisions and corporate performance. However, Chen et al.'s (2019) findings reveal that CEO performance in terms of non-financial performance (CSR performance) is good in the early stages of CEO assignment (early tenure). According to Kusumasari (2018), investors often examine CEO performance within the first three years of employment. The initial stages based on Kusumasari's (2019) study are the first three years. The data in this study show that the average tenure of CEOs is 4.9 years, so the results of this study may be due to the average CEO data being 4.9 years old.

The existence of the BED, which also covers the areas of moral principles and decision-making, governance issues, and codes of conduct, needs to moderate the influence of CEO tenure on non-financial performance. The results of this study follow Henderson et al. (2006), which shows that CEO tenure does not significantly influence firm performance and that firm performance will only sometimes be in line with this CEO tenure. Whether there is CEO tenure business ethics, this does not affect the firm's non-financial performance. Based on stakeholder theory, Boards of Directors function as a liaison mechanism between firms and their stakeholders, providing legitimacy to various stakeholder groups (Hossain et al., 2017). The role of the CEO is not only responsible for financial success but also for success in non-financial performance so that the firm's existence is safe among stakeholders and other stakeholders (Triyani & Setyahuni, 2020). The results of this study do not support stakeholder theory, which, related to its characteristics in terms of tenure, still does not affect non-financial performance.

Moderation of Business Ethics Disclosure on the Effect of CEO Characteristics – Education Background on Firm Non-Financial Performance

Moderation of business ethics disclosure on the effect of CEO characteristics based on educational background on non-financial performance has no significant effect because the t- statistic value is 1.01 <1.96 and P values are 0.312 > 0.05. Garcia-Blandon et al. (2019) state that an MBA's educational background does not strengthen CEOs' performance, both from a financial and non-financial perspective. Furthermore, the research results of Garcia-Blandon et al. (2019) state that CEOs with an engineering educational background tend to have better performance than other CEOs in terms of ESG (sustainability performance). The results of this study could be attributed to the fact that most of the sample in this study was at the master's level (with a composition of 38%-44% from 2016 to 2020). Furthermore, if business ethics exist, this CEO education does not affect the firm's non-financial performance.

According to Karim et al. (2016), the importance of non-financial performance for firms, such as environmental performance, is that being ethical also indicates that firms appreciate the importance of being environmental. However, as Nazaruddin (2007) points out, one of the critical challenges of non-financial performance assessment systems is the difficulty of transferring the rise that occurs when these non-financial variables are used into rupiah. The relationship between non-financial increases is not readily seen in business earnings or cannot be measured clearly. As a result, the CEO needs to be more interested in showing results from a non-financial standpoint.

However, corporate social responsibility is more important now, so the issue of measuring performance using financial indicators only is assumed to be too limiting. It makes the concept of Environmental, Social, and Governance (ESG) performance increasingly popular among researchers, practitioners, and market participants. If financial performance focuses on shareholder wealth, ESG considers not only shareholders but also the environment (i.e., climate change, energy, and water waste) as well as issues of social responsibility (Garcia-Blandon et al., 2019).

Firms that maintain aspects of sustainability and a good reputation can increase the firm's competitive advantage, which in turn can improve the firm's financial performance (Triyani & Setyahuni, 2020). Furthermore, Triyani and Setyahuni (2020) state that the role of the CEO is not only responsible for financial success but also for success in non-financial performance so that the firm's existence is safe among stakeholders and other stakeholders. Therefore, the results of this study do not support stakeholder theory, where the CEO acts as a liaison between firms and their stakeholders (Hossain et al., 2017), who should play a role in all aspects of the sustainability of the firm and ultimately for the welfare of all stakeholders.

Moderation of Business Ethics Disclosure on the Effect of CEO Characteristics - Age on Non-Financial Performance of Firms

Based on Table 9, moderation of business ethics disclosure on the effect of CEO characteristics based on age on non-financial performance has no significant effect because the t statistic is 0.75 <1.96 and P Values are 0.453 > 0.05. One of the shortcomings of non-financial performance is the inability to transform into rupiah, the rise in corporate profits that occurs or cannot be adequately assessed if this non-financial measurement is used (Nazaruddin, 2007). It has resulted in CEOs needing more time to implement matters related to activities to improve non-financial performance, which also requires development and innovation.

The percentage of this research data for CEOs aged between 50 and 65 years amounted to 69% in 2017, 71% in 2018, 78% in 2019, and 79% in 2020. Therefore, with the increasing age of CEOs, policies related to the disclosure of ESG information (non-financial performance) will be increasingly limited (Triyani & Setyahuni, 2020). Naseem et al. (2019) mention that older CEOs put less money into R&D and consent to less risky investment policies. It is also in line with Bertrand and Schoar (2003), which found that CEOs from the older generation were seen as more conservative in making decisions.

Goel and Ramanathan (2014) mention that business ethics as a concept mutates, changes in the context of new technologies, new ways of mobilizing and utilizing resources, developing community practices, and growing towards a globally connected business network. From this explanation, the senior CEOs will not be interested in non-financial performance, and BED itself which requires a lot of sophisticated resources, will not be what the senior CEO will implement, which is reflected in the results of this study.

He et al. (2019) state that stakeholder theory highlights that balancing of interests of all stakeholders and in all areas/overall interests of stakeholders are aimed at the management job. In addition, Elsayih et al. (2020) show that CEOs play an essential role in increasing firm legitimacy concerning environmental performance. Therefore, the results of this study need to follow stakeholder theory. CEOs need to make non-financial performance one of their priorities. Firms with good environmental and social disclosures will also have good financial performance (Triyani & Setyahuni, 2020).

Moderation of Business Ethics Disclosure on the Effect of Carbon Emission Disclosure on Non-Financial Performance of Firms

Following Table 9, the moderation of business ethics disclosure on the effect of carbon emission disclosure on non-financial performance has no significant effect because the t- statistic is 0.68 <1.96 and P Values are 0.493 > 0.05. Rusli et al. (2019) state that topics related to carbon emission disclosure and firm financial performance are interesting topics because this responsibility related to the environment will not only affect firms but also help governments to reduce carbon emissions globally.

Stakeholder theory argues that an entity seeks to align its activities with stakeholder expectations through corporate social reporting communication channels. Firms have used sustainability reporting and assurance of sustainability reports to fulfill their accountability to their stakeholders (Junior et al., 2014). However, only some firms publish sustainability reports, and the CED disclosure ratio still needs to be higher. As a result, even after BED has moderated the influence of the dependent variable on the independent variable, the effect of the dependent variable on non-financial performance remains low.

Implementation in Indonesia, reflected in the disclosures made by firms, still needs to be better/high, with average disclosures per year (2017-2020), namely: 0.17, 0.21, 0.30, and 0.36. Even though the firm has tried to be ethical in business, Karim et al. (2016) state that being ethical also means being environmental and doing other things related to business ethics. However, it has yet to be able to improve the firm's non-financial performance.

On the other hand, CED in the results of this study continues to increase, showing improved implementation. It indicates that the firm has tried to cover the distance between the firm and society, where the legitimacy of the firm will be threatened if there is a distance between the firm and society (Kurnia et al., 2021). Legitimacy theory rests on the idea that the organization concerned and the society in which it operates have a social contract. Therefore, firms with poor social and environmental performance records may find it increasingly difficult to obtain the required resources and support to continue operations in an environment that values a clean environment (Ghozali, 2020).

CONCLUSION

From the results of this study, it can be concluded that CEO – education and CED significantly adversely affect the firm's financial performance. Meanwhile, CEO tenure and age do not significantly affect firm financial performance. BED can moderate the effect of CEO education (positive) and CEO age (negative) on firm financial performance. Meanwhile, for non-financial firm performance, CEO tenure, CEO education, CEO age, and CED have no significant effect. Then, BED was also unable to moderate the relationship between CEO tenure, CEO education, CEO age, and CED with the firm's non-financial performance.

The results of this study are likely due to the limitations of this study. The limitations of this study include the fact that measuring indices and collecting non-financial data, such as carbon emission reports, business ethics disclosures, and awards, is still prone to subjectivity. As a result, it is hoped that it will accurately depict the firm. Various firm industries can result in varying outcomes, particularly in the firm's non-financial performance section. Then, not all companies produce sustainability reports, and CED disclosure percentages remain low. Suggestions for future research include using the same type of industry so that the data can be more accurately dispersed, such as CED, BED, and non-financial performance, so that the research results can better describe the actual conditions.

Not all CEO characteristics have a significant effect on firm performance. However, this study contributes significantly by describing CEOs in Indonesia regarding tenure, education, and age. The results of this study also provide several valuable implications. First, managerial implications, a qualified CEO is not only determined by the tenure but also by the wealth of experience and the varied conditions of the firms they lead. The following managerial implication is that Bertrand and Schoar (2003) concluded that CEOs with an MBA background are aggressive managers. The Corporate Finance Institute/CFI (2021) states that this aggressive nature will increase the risks they will take, and if a loss occurs, it will result in enormous losses.

For this reason, this aggressive nature must be balanced with a robust risk assessment to avoid or reduce these risks. Second, the practical implication is that it is vital to increase the provision of material regarding sustainability in economic education programs, starting at a lower level to increase awareness. The following practical implication is that the results of this study show that awareness of disclosing carbon emissions is increasing from year to year. Third, the regulatory implication for regulators is how to increase firm disclosure of carbon emissions because low disclosure also reflects low implementation.

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