



CEO Characteristics and ESG Disclosure: An Indonesian Evidence

Henisa Fatmawati Akbar & Nasyiah Hasanah Purnomowati

1. Accounting Study Program Faculty of Economics and Business, Universitas Sebelas Maret, Indonesia

Abstract: This paper purposes to investigate the influence of the characteristics of the Chief Executive Officer (CEO) on Environmental, Social, and Governance (ESG) disclosure for public companies in Indonesia. This research is constructed from the Upper Echelon Theory, which investigates the effect of age, tenure, and education of the CEO on ESG disclosure. The research uses a panel data set of 219 firm-year observations of public companies from Indonesia from 2020 to 2022, and ESG scores from the Refinitiv database. This study employs a panel data regression with robust standard errors as the empirical method. The results of the study reveal that the age of the CEO is not a factor for ESG disclosure, but the tenure of the CEO is negative for ESG disclosure. On the other hand, the educational background of the CEO, if in the field of engineering, is positive for ESG disclosure. Therefore, it can be concluded that the current study is an extension of the existing ESG literature, providing empirical evidence and adding the factor of educational background of the CEO as an important factor for ESG disclosure.

Keywords: ESG Disclosure, CEO age, CEO tenure, CEO education

INTRODUCTION

In recent decades, corporate performance evaluation has moved away from a strictly financial perspective to a more comprehensive one that accounts for environmental, social, and governance (ESG) factors. This change in approach can be linked to the Triple Bottom Line idea by (1), which stresses that a company's success must reconcile economic outcomes with environmental care and social responsibility. Consequently, the ways companies report on sustainability have changed from Corporate Social Responsibility (CSR) to sustainability reporting and, nowadays, to ESG disclosure (2,3).

One example of sustainability implementation in Indonesia is the enactment of the Company Law No.40/2007 which among other provisions, requires environmental and social responsibility commitments in the businesses. Besides, the Financial Services Authority Regulation No. 51/POJK.03/2017 is also related to the implementation of sustainable finance. The term "sustainability reporting" as per Global Reporting Initiative is the disclosure by companies about their economic, environmental and social impacts resulting from their operations (4). However, even with the enforcement of these regulations, ESG disclosure practices in Indonesia are still inconsistent. For instance, a lot of big companies are now integrating ESG principles in their operations, but to a great extent, the challenges like expensive implementation, lack of understanding of ESG, and ineffective regulatory support are keeping the companies from making full ESG disclosures (5).

ESG disclosure is a thorough reporting tool that brings together environmental, social, and governance aspects obsessed by the organization transparency procedure (6,7).

Disclosure is crucial because companies are not only expected to maximize shareholder value but also to take the behalf of broader interested parties into account such as workers, customers and investors among others (5). Prior studies suggest that high-quality ESG disclosure can enhance investor confidence, corporate reputation, and long-term sustainability performance (2). However, empirical evidence indicates that ESG disclosure quality in emerging markets remains relatively low compared to developed economies.

From perspective of Upper Echelons Theory, the results of an organization are a reflection of its leaders' values, cognitive foundations, and personalities., and characteristics of highest manager (8). In line with this theory, CEOs play a central role as strategic decision-makers who influence corporate policies, including ESG-related initiatives (9). However, previous ESG research has intensively focused on governance mechanisms at the board level, such as board composition and audit committees, limited consideration regarding the CEO attributes. CEO characteristics, for example tenure, age, and educational background shape managerial cognition, risk preferences, and openness to change, which may influence ESG disclosure decisions (10-12) .

This manuscript aims to analyse the impact of CEO traits on ESG disclosure in firms listed on Indonesia Stock Exchange in 2020-2022 time frame. Specifically, this paper investigates the influence of CEO age, CEO tenure, and CEO education on ESG disclosure. By focusing on an emerging market context and adopting CEO education proxied by an engineering background, this research adds to ESG-related scholarship by broadening the use of Upper Echelons Theory and offering data-backed insights into how top managers' leadership is strategically leveraged to improve ESG disclosure in Indonesia.

LITERATURE REVIEW

Upper Echelons Theory

Upper Echelons Theory that introduced by (8) states that the characteristics of senior executives can to some extent predict the organizational results. The theory, in fact, argues that the strategic decisions and the resultant corporate performance mirror the executives' cognitive frameworks, values, and life experiences. These are, in turn, shaped by CEO's observable demographic characteristics such as age, tenure, and educational background. The CEO being the most empowering decision maker, he or she is primarily responsible for steering the strategic priorities, which could also include sustainability-related policies.

Under the scope of ESG disclosure, Upper Echelons Theory outlines that CEOs' individual traits determine their perception of environmental and social risks, how they assess long-term investments and their reaction to the pressure of stakeholders. Therefore, differences in CEO qualities might cause variations in companies' ESG disclosure practices (10, 11). The perspective in this theory offers an important basis for understanding the role of CEO traits in influencing the decisions regarding ESG disclosure of companies.

Environmental, Social, and Governance (ESG) Disclosure

ESG disclosure is a form of advanced sustainability reporting that combines corporate practices related to environment, social, and governance as elements of a comprehensive transparency mechanism. ESG disclosure has its roots in earlier reporting practices like

Corporate Social Responsibility (CSR) and sustainability reporting (SR) and as a result, it shows the increase of stakeholder demand for more comprehensive and decision-useful information. (6,7).

Environmental, Social, and Governance (ESG) disclosure is an upgraded version of sustainability reporting that goes beyond a simple report. Besides serving as a reporting tool, ESG disclosure also acts as a strategic signal that demonstrates a company's dedication to the sustainability of business practices and continuing value creation (2). Detailed and well-documented ESG disclosure give investors and stakeholders a more complete understanding of companies' sustainability performance, whereas low levels of disclosure may point to poor ESG practices or lack of transparency (13). In emerging markets such as Indonesia, ESG disclosure practices remain uneven due to regulatory limitations, cost constraints, and differences in managerial commitment, making ESG disclosure an important area for empirical investigation (5).

Characteristics of Chief Executive Officer (CEO)

The CEO is the most influential executive within a firm, possessing substantial authority over strategic decision-making and corporate policy formulation (14). In Indonesia, the CEO which commonly referred to as the president director, holds primary responsibility for operational planning, strategic direction, and coordination between internal and external (15). The emergence of family firms resulted in an increase in the capital need for expansion. Family corporations can get the required finance from the capital market by conducting an Initial Public Offering. The research purposes are to analyse the effect of CEO power measured by proxy of voting right of CEO, tenure of CEO, and interlock of CEO on IPO premium, and influence of family CEO on IPO premium. This study employs a sample of 65 family firms in Indonesia from 2001-2014. The result of multiple regression showed that voting right of CEO, interlock of CEO, and family CEO are positively and significantly influence IPO premium. This study result indicates that when investors want to make an investment decision for firms conducting an IPO, investors will assess the quality of the firm's CEO. The result also indicates that when there is a family CEO, investors will value the shares of the company, which results in an increase in IPO premium (15). As such, CEO characteristics are predicted significantly affect the firm-level outcomes, including ESG disclosure practices.

CEO characteristics such as age, tenure, and educational background influence managerial cognition, risk preferences, and openness to innovation. Prior studies suggest that these attributes affect how CEOs perceive sustainability issues, evaluate long-term investments, and balance financial objectives with environmental and social responsibilities (8,9). Accordingly, differences in CEO characteristics may lead to variation in firms' ESG disclosure decisions.

Hypothesis Development

CEO Age and ESG Disclosure

Per Upper Echelons Theory, CEO age indicates variations in cognitive flexibility, risk tolerance, and change adaptability (10). Generally, younger CEOs are seen as more open to

innovation and more ready to do long-term and risky strategies, including sustainability-related initiatives. On the other hand, older CEOs are likely to show a slowly increasing risk aversion and a certain level of resistance to change, which, in effect, may lessen their participation in ESG-related investments that are costly and have uncertain returns (17). Empirical research predominantly confirms a negative link between CEO age and ESG-related activities. Emerging market studies reveal that older CEOs sometimes focus more on short-period performance at the cost of long-term and sustainable programs, which leads to them making fewer ESG disclosures (12,18). Therefore, here is the proposed hypothesis:

- H1: CEO age negatively affects ESG disclosure.

CEO Tenure and ESG Disclosure

CEO tenure is one of the factors mentioned in Upper Echelons Theory that helps explain the changes in strategic decision-making resulting from the CEO experience accumulation and changes in cognitive frameworks. When the duration of a CEO's position is long, he or she may be more dedicated to the existing strategies and less reactive to changes in the external environment (10,19). Such inflexibility in strategy is likely to constrain a company's interaction with environmental and social issues, as well as potentially decrease the level of ESG disclosure.

However, there are some studies that have shown that CEO tenure negatively affect the ESG disclosure, which means that CEOs with longer tenure are tend to use outdated paradigms and are less likely to adopt new sustainability practices (20,21). Thus, it is proposed that the CEOs with longer tenure may provide less information about ESG issues than those CEOs who have recently been appointed and are more likely to use ESG initiatives as a symbol of change in their strategy. On the basis of the above argument, this hypothesis is developed.

- H2: CEO tenure negatively affects ESG disclosure.

CEO Education and ESG Disclosure

The level of education of the CEO represents cognitive ability, analysis, and problem-solving attitude (22). CEOs with engineering or science-related educational qualifications are likely to be more proficient in comprehending technological innovation, R&D processes, and environmentally complex issues like energy efficiency and climate change. Moreover, higher level education CEOs are also more likely to be effective in strategic decision-making (23).

Existing literature suggests that CEOs with engineering backgrounds allocate more resources to research and development activities, which are strongly linked to better environmental performance and sustainability (17,24). There is also empirical proof that suggests companies with CEOs having engineering backgrounds have better ESG performance and disclosure (21). Accordingly, this paper developed this hypothesis:

- H3: CEOs with an engineering educational background have a positive effect on ESG disclosure.

RESEARCH METHODS

Data

The population in this research consists of all firms that are officially listed on the Indonesia Stock Exchange (IDX) and the purposive sampling is applied. The criteria for purposive sampling are: a). Corporations listed on the IDX in 2020-2022; b). Firms have an ESG Score; c). Companies provide complete data on annual reports for 2020-2022. The secondary data obtained from the annual report of the company and Refinitiv's database. The logic for selecting the year 2020-2022 is because it represents the time when ESG disclosure practices were increasing due to growing awareness of sustainability issues among stakeholders in Indonesia. Only companies with available ESG scores were selected for this study. This approach is consistent with prior ESG studies employing third-party ESG ratings as standardized disclosure measures.

Variables Measurement

Dependent Variable

ESG disclosure is a new concept of disclosure that comprehensively discloses information regarding the impact of the firm's business on the environment, social, and governance aspects (5). As dependent variable, ESG disclosures in this study measured by using Refinitiv ESG scores. This score ranges from 0 to 100, with a value of 100 denoting the best performance (25). Refinitiv ESG scores were selected because they assess firms' environmental, social, and governance disclosure practices comprehensively and standardizely, and are widely used in prior empirical ESG research (5, 25).

Independent Variables

The characteristics of CEOs, which are independent variables in this research, are proxied by the CEO's age, CEO's tenure, and CEO education. Adopting the measurements used in the study (5, 29). The age of a CEO is measured by counting the number of years since the CEO was born. The CEO's term of office is the number of years the CEO has served in the company. The third proxy is CEO education, which is a dummy variable equal to 1 (one) if the CEO has an engineering education background and 0 (zero) if not as refer to (29). CEO education is proxied by an engineering background to capture technical and analytical orientation, which is particularly relevant for sustainability-related decision-making involving environmental and technological complexity (21).

Control Variables

The control variables are company's age and leverage. Firm age is considered based on the observation that mature (old) companies are more concerned about their reputation and thus disclose more social responsibility information. The measurement of firm age is calculated by counting the number of years that have passed since the company's inception. Meanwhile, (26) and (27) leverage is an indicator that describes the extent of a company's capacity to pay off its debts. Leverage is measured by dividing total liabilities by total equity (Debt to Equity Ratio or DER) (5,28,29). Firm age and leverage were included as control

variables as they are commonly associated with corporate disclosure practices. Other firm-level controls, such as firm size, were excluded to avoid multicollinearity concerns and model over-specification, given the relatively limited sample size.

Data Analysis

In this paper, panel data regression analysis with Robust Standard Error was used by integrating time-series and cross-sectional data. The tests carried out included model selection tests, classical assumption tests, and hypothesis tests using the statistical tool STATA 17. The influence of CEO characteristics and ESG performance is investigated with the following equation model:

$$ESG_{it} = \alpha + B1AGE_{it} + B2TNR_{it} + B3EDU_{it} + B4FAGE_{it} + B5LEV_{it} + \epsilon_{it}$$

Where ESG = Environmental, Social and Governance, AGE = CEO's age, TNR = CEO's tenure, EDU = CEO's educational background, FAGE = company age, LEV = company leverage, and ϵ = error regression.

However, before performing the panel data regression analysis, it is important to test the selection of the best model to use in this study. To select the appropriate model to use in this study, Chow test, Lagrange Multiplier (LM) test, and Hausman test were carried out. Chow test is important in selecting the appropriate model to use, which can be either Common Effect Model (CEM) or Fixed Effect Model (FEM). Lagrange Multiplier test aims at selecting the most appropriate model to use, which can be Random Effect Model (REM) or Common Effect Model (CEM). On the other hand, Hausman test is important in selecting between Random Effect Model (REM) and Fixed Effect Model (FEM).

RESULTS AND DISCUSSION

Descriptive Statistics

From Table 1, we can see that the highest ESG score of 88.78994 was PT Vale Indonesia Tbk. (INCO) in 2022. Meanwhile, the lowest ESG score of 9.887626 was PT Link Net Tbk. (LINK) in 2020. The mean value of the ESG score is 49.60644 with a standard deviation of 19.30604.

For the CEO age variable, the highest score was 74, owned by PT Bayan Resources Tbk. (BYAN) for the 2022 period. Meanwhile, the lowest value of 32 is owned by PT Bank Aladin Syariah Tbk. (BANK) for the 2021 period. The average value is 54.99543 with a standard deviation of 7.920765.

Descriptive statistical results for the variable of CEO tenure, the highest score was 31, and the lowest score was 1. The average value is 6.625571 with a standard deviation of 6.499575. Meanwhile, the descriptive results for CEO education were 1, and the lowest score was 0 (dummy variable). The CEO education variable has a mean value of 0.2785388 (27.85%). This value shows that from the overall observation data, companies led by CEOs with engineering education backgrounds reached 27.85% and the rest were led by CEOs with non-engineering education backgrounds.

Table 1: Descriptive Statistical Test Results

Variable	Obs	Mean	Std. Dev	Min	Max
ESG	219	49.60644	19.30604	9.887626	88.78994
AGE	219	54.99543	7.920765	32	74
TNR	219	6.625571	6.499575	1	31
EDU	219	0.2785388	0.449307	0	1
LEV	219	2.40142	3.162273	0.1146072	24.4892
FAGE	219	43.10502	20.17635	7	127

Hypothesis Testing Result

Table 2: Test Results of Estimation Model

Test Type	Prob.Value	Conclusion
Chow Test	0.0000	FEM
LM Test	0.0000	BRAKE
Hausman Test	0.0000	FEM

Table 2, displays the results of the best estimation model testing. The probability value of the Chow test of 0.0000 is below the significance level (0.05), so the estimation model chosen is the Fixed Effect Model (FEM). The Fixed Effect Model was selected as it controls for unobserved firm-specific heterogeneity that may influence ESG disclosure practices but remains constant over time. Furthermore, the probability value of the LM test is 0.0000 less than 0.05 so the model chosen is the Random Effect Model (REM). The result of the Hausman test of 0.0000 is less than 0.05, so the final estimation model set in this paper is the Fixed Effect Model (FEM).

Table 3: Multicollinearity Test Results

Variable	VIVID	Tolerance
AGE	1.13	0.8855
TNR	1.11	0.9038
EDU	1.04	0.9587

Table 3 shows the multicollinearity test results of all independent variables, namely the age of the CEO, the CEO's tenure, and the CEO's education. The test results showed a VIF value of less than 10. This means that the data of this study did not find correlations between independent variables or did not meet the requirements in the multicollinearity test, so the test could be continued.

Table 4: Heteroscedasticity Test Results

Chi-sq. Statistic	Prob. Chi2
6479,70	0,0000

The heteroscedasticity test was used to identify the variance disparity of the residual from one observation to another. Based on the test results, Prob. Chi2 = 0.0000, which indicates the presence of heteroscedasticity. Testing of the data using Robust Standard Error can anticipate possible specification errors of the variance function and the possible emergence of heteroscedasticity. So to overcome this, (30). Robust Standard Error is used. Due to the presence of heteroskedasticity, we employed the robust standard errors to achieve consistent and unbiased coefficient estimates, following prior panel data studies (30).

Table 5: Panel Data Regression Test Results (Robust)

ESG	Coefficient	Robust std. err.	T	P> t	[95% conf. interval]	
AGE	0.1153	0.1072	1.08	0.285	-0.0978	0.3285
TNR	-0.5197	0.2832	-1.84	0.070**	-1.0826	0.0432
EDU	6.3312	3.1633	2.00	0.048*	0.0428	12.6196
LEV	0.2805	0.2147	1.31	0.195	-0.1464	0.7074
FAGE	3.0745	0.5563	5.53	0.000	1.9686	4.1804
_Cons	-81.9153	24.1642	3.39	0.001	-129.9521	-33.8785
*significance at the level of 5%						
**significance at the 10% level						

Table 5 shows that the coefficient of CEO *age* is 0.1153278 and a probability of 0.285. This means that CEO *age* does not have an individual influence on the ESG. These results do not support the first hypothesis (H1) of the study. Meanwhile, CEO *tenure* has a coefficient value of -0.5196613 and a probability value of 0.070, which means less than 0.1 ($0.070 < 0.1$). This indicates that the independent the CEO *tenure* has an individual negative influence on the ESG. These results support the H2. Finally, CEO *education* has a coefficient value of 6.331195 and a probability value of 0.048. This indicates that independent variables of CEO *education* have an individual positive influence on dependent variables (ESG). These results support the third hypothesis/H3.

The leverage control variable has a coefficient value of 0.2805045 and a probability value of 0.195, which means more than 0.05 ($0.195 > 0.05$). This indicates that *the leverage* control variable has no individual influence on ESG. Meanwhile, the *firm age* control variable has a coefficient value of 3.07453 and a probability value of 0.000, which means more than 0.05 ($0.000 < 0.05$). This indicates that *the firm age* control variable has an individual positive influence on the dependent variable (ESG).

Discussion

The Effect of CEO Age on ESG Disclosure

The findings denote that CEO age does not have a significant effect on the ESG disclosure. This finding implies that differences in terms of chronological age among CEOs do not necessarily lead to differences in sustainability disclosure practices. From the lens of Upper Echelons Theory, even if age is generally related to cognitive inflexibility and risk aversion, such effects might not prevail if organizational decisions are largely influenced by institutional forces and regulations.

This result is coherent with prior papers that also report an insignificant effect of CEO age on ESG disclosure (5,21). The logical reasoning lies in the relatively low variation in CEO age within the sample, where the majority of CEOs are above 50 years old. As suggested by (31), age-related effects tend to be more pronounced when firms are led by relatively younger executives. In contrast, when CEOs are predominantly within a similar age cohort, differences in strategic orientation toward ESG disclosure may become less distinguishable. In the Indonesian context, ESG disclosure practices are also influenced by regulatory compliance and industry norms, which may limit the extent to which individual CEO characteristics, such as age, shape disclosure decisions. Consequently, ESG disclosure may be driven more by institutional expectations than by age-related managerial preferences.

The Influence of CEO Tenure on ESG Disclosure

The findings expose that CEO tenure negatively affect the ESG disclosure, showing that companies led by long-tenured CEOs tend to disclose less ESG programs. This result is consistent with Upper Echelons Theory, which argues that “extended tenure may result in strategic inertia, decreased receptiveness to change, and reliance on established managerial routines” (10). This is coherent with existing empirical research (12,20,21), CEOs with long tenures may also become more entrenched in their current strategies and less sensitive to the growing needs of sustainability. Since ESG initiatives involve change within an organization and are long-term in nature, CEOs with long tenures may view ESG disclosure as a less strategic priority.

On the other hand, newly appointed CEOs may utilize ESG initiatives and improved disclosure as a signaling tool to show their commitment to change and reduce career-related risks in the initial stages of their tenure. In the Indonesian context, where the practice of ESG disclosure is still in its developmental stages, leadership change could be an important factor that promotes greater transparency and responsiveness to sustainability issues.

The Influence of CEO Education on ESG Disclosure

The findings show that CEO education, measured by engineering experience, positively and significantly influences ESG disclosure. This result lends support to Upper Echelons Theory by emphasizing the importance of cognitive orientation and technical knowledge in determining sustainability strategic choices.

CEOs with engineering backgrounds have a higher chance of having analytical skills and knowledge in the area of environmental management and innovation (23). It has been suggested by previous research that CEOs with engineering backgrounds are likely to allocate more resources to R&D, which is directly associated with environmental performance and sustainability (17,24). Better ESG disclosure could be a result of better ESG performance as well as greater awareness of the significance of transparency in sustainability initiatives.

This finding is consistent with the empirical evidence presented by (21), who show that CEOs with engineering backgrounds are linked to improved ESG disclosure. In the emerging markets such as in Indonesia, where ESG practices are likely to be more complex

in terms of environmental and technological issues, technical skills may help CEOs better integrate sustainability issues into corporate strategies and reporting practices.

CONCLUSIONS AND SUGGESTIONS

Conclusion

The effect of the Chief Executive Officer attributes on the ESG disclosures can be analysed based on Upper Echelons Theory. Specifically, this paper intends to explore the effect of the age, experience, and education of the CEO on the disclosure of ESG information.

The findings reveal that CEO age is not significant in explaining ESG disclosure. This evidence implies that the differences in managerial cognition due to age may not have a significant influence on ESG disclosure, especially when the disclosure practices are dominated by institutional pressures. On the other hand, CEO tenure is found to be negatively significant in explaining ESG disclosure, which implies that companies with longer-tenured CEOs are less likely to disclose ESG information. This finding is coherent with the argument that companies with longer-tenured CEOs may experience strategic rigidity and become less responsive to emerging sustainability demands.

Furthermore, the outcomes depicts that CEO education, proxied by an engineering educational background, positively affect the ESG disclosure. This finding highlights the importance of technical competence and analytical orientation in addressing sustainability-related challenges and promoting greater transparency. Overall, this paper delivers empirical evidence that specific CEO traits have a meaningful role in developing corporation's ESG disclosure.

Theoretical Implications

The contribution of this paper to the sources is the application of the Upper Echelons Theory in the context of ESG disclosure in an emerging market. Although previous studies have focused primarily on board-related governance structures, it is demonstrated in this paper that the attributes of the CEO, particularly tenure and education, play an important role in ESG disclosure. This paper also adds to the sources by emphasizing that the education of the CEO is an important cognitive attribute for ESG disclosure.

Furthermore, the lack of significance of CEO age supports the proposition that not all demographic attributes are equally influential on ESG disclosure, highlighting the importance of considering situational factors when applying UET to sustainability issues.

Practical and Policy Implications

From a practical viewpoint, it can be argued that corporate boards and nomination committees should take into account CEO characteristics in their selection of top managers, especially in terms of sustainability objectives. The selection of CEOs with technical and engineering backgrounds may help firms in dealing with complex environmental issues and improving transparency in ESG reporting. The negative relationship between CEO tenure and ESG disclosure may indicate that periodic changes in CEOs could be important in strengthening sustainability practices in organizations.

From a policy perspective, regulators and standard-setting bodies may consider providing clearer ESG disclosure guidelines and capacity-building initiatives targeted at top management. Enhancing CEOs' understanding of ESG-related issues could support more consistent and meaningful ESG disclosure practices, particularly in emerging markets such as Indonesia.

Limitations and Future Research Directions

There are several limitations in this study that offer directions for future studies. Firstly, the current study is restricted to companies that have ESG ratings in the Refinitiv database. Future studies could use other ESG databases to increase the sample size. Secondly, the current study only covers a period of three years (2020-2022). Future studies could use a longer period to determine the long-term impact of CEO characteristics on ESG disclosure.

Finally, this study focuses on a limited set of CEO characteristics. Future research may incorporate additional CEO attributes, such as gender, ownership, compensation structure, or international experience, as well as examine interaction effects between CEO characteristics and corporate governance mechanisms.

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