

CEO Attributes and Corporate Environmental Disclosure: Evidence from Non-Financial Firms Listed on the Nairobi Securities Exchange in Kenya

Anthony Magoma^{1*}, Sadiki Sumawe² and Momole Kasambala³

^{1,2}Tanzania Institute of Accountancy, Mwanza, Tanzania

³Tanzania Institute of Accountancy, Dar es Salaam, Tanzania.

² *E-mail:* sadiki.sumawe@tia.ac.tz,

³ *E-mail:* momole.kasambala@tia.ac.tz,

**Corresponding author email:* anthonyrmagoma@gmail.com or
anthony.magoma@tia.ac.tz
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Abstract

This study examines the influence of the Chief Executive Officer (CEO) attributes on the corporate environmental disclosure (CED) among 20 non-financial firms listed on the Nairobi Securities Exchange (NSE) in Kenya from 2016 to 2023. Despite the growing importance of environmental disclosure in emerging economies, there is limited empirical evidence on how CEO traits shape corporate environmental disclosure in the Kenyan context. This study intends to fill that gap. The study is grounded in Upper Echelons Theory and Agency Theory. The study employs a balanced panel dataset of 160 firm-year observations and applies fixed effects regressions and the Generalized Method of Moments (GMM) technique to mitigate the endogeneity concerns inherent in panel data analysis. The findings reveal that CEO tenure exerts a positive and significant influence on CED, while CEO gender and remuneration show a negative and statistically insignificant effect on CED. The study contributes to the body of corporate governance and sustainability literature by providing new empirical insights from the under-researched African capital market, highlighting the role of long-tenured CEOs in enhancing environmental reporting practices. Practically, the findings suggest that the boards, investors, and regulators may consider CEO tenure as an important governance characteristic in relation to corporate environmental reporting. The study recommends that policymakers strengthen disclosure guidelines and encourage leadership stability to enhance the quality and consistency of CED in emerging economies like Kenya.

Keywords: CEO attributes, corporate environmental disclosure, Upper Echelon Theory, Agency Theory, Kenya

1.0 INTRODUCTION

The global business landscape is rapidly changing due to innovative technologies such as artificial intelligence (AI), market instability, and environmental challenges. (Mukherjee and Sen, 2022; Rust, 2020; Wang, 2024). This trend has required top management, including Chief Executive Officers (CEOs), to possess the right attributes to effectively steer the firms' strategic direction. Furthermore, the CEO's leadership is vital in navigating challenges and leveraging opportunities in a fiercely competitive business environment. (Gordon et al., 2021). The increasing attention on CEO attributes and their effects on corporate outcomes has garnered substantial interest in academic research. (Lu et al., 2022). Scholars have explored the effect of CEO attributes on environmental sustainability (Mahran & Elamer, 2024; Zhu et al., 2024), sustainability reporting (Harindahyani and Tjahjadi, 2025), financial reporting timeliness (Lawal et al., 2024), economic performance (Chekenya & Mundava, 2025; Mukherjee & Sen, 2022), and corporate reputation, among others (Mukherjee & Sen, 2022). Additionally, proponents of the Upper Echelon Theory argue that CEO attributes play a pivotal role in shaping a firm's strategic decisions and corporate actions (Santoso & Setiawan, 2024). Sustainability reporting involves disclosure of environmental, social, and governance (ESG) objectives and firms' commitment to achieving them. In today's globalized landscape, this form of reporting is important because companies seek legitimacy from various stakeholders by disclosing both financial and non-financial information. Furthermore, there is immense pressure within the corporate world for firms to disclose environmental information in their annual reports (Benlemlih et al., 2020).

Moreover, in this study, CEO remuneration encompasses the total compensation awarded to a firm's chief executive, including salaries, bonuses, and incentives. Empirical studies indicate that CEO pay structures can impact non-financial outcomes; for instance, equity-based remuneration is linked to enhanced ESG disclosure quality under specific governance conditions. (Huang et al., 2025). CEO gender, whether male or female, influences disclosure practices, with studies showing that female leadership positively affects ESG reporting and long-term performance (Martín-Zamora et al., 2024; Zhu et al., 2024). CEO tenure, or the length of time in the role, reflects experience and is associated with a stronger commitment to environmental and social disclosure. Together, these factors shape corporate environmental disclosure behavior, aligned with the Upper Echelons perspective (Harindahyani & Tjahjadi, 2025).

Corporate environmental disclosure (CED) occurs when firms transparently report their environmental policies, practices, and performance to external stakeholders within the context of sustainability and Environmental, Social, and

Governance (ESG) reporting. Empirical studies highlight the strong influence of CED on firm value, market reactions, and environmental performance. Furthermore, enhanced ESG disclosure not only drives better sustainability outcomes but also shapes investor perceptions. (Bastidas and Ariza, 2025; Chi and Cheng, 2026). Reflecting this growing importance, the recent KPMG report indicates that over 80% of the 259 largest global companies by revenue (G250) now include ESG metrics in their annual reports. This increase is primarily attributed to enhanced reporting practices among companies in China and the United States of America, which together account for nearly 60% of the G250 companies. According to KPMG's report, among the top 100 companies (N100) in each revenue group, South Africa's sustainability reporting rate was 96% in 2022 and rose to 100% in 2024, achieving the highest rate in Africa. In comparison, Nigeria's reporting rates were 77% in 2022 and 78% in 2024, while Angola experienced an increase from 27% in 2022 to 34% in 2024 (KPMG, 2024). There is a direct link between environmental disclosure through sustainability reporting and corporate reputation (Amran et al., 2024). Positive environmental activities disclosed in the annual reports can assist in communicating widely to the majority of the stakeholders about the focus of the organization towards environmental protection. Most organizations shy away from disclosing any diverse environmental information, fearing jeopardizing their legitimacy in the marketplace (Akhter et al., 2022). Thus, the present study seeks to investigate the impact of CEO attributes on corporate environmental disclosure.

This study seeks to explore and respond to three (3) research questions (RQ). RQ1. Does CEO tenure influence corporate environmental disclosure? RQ2. Does CEO gender influence corporate environmental disclosure? RQ3. Does CEO remuneration influence corporate environmental disclosure? From the stated research questions, three specific objectives (SO) were derived. SO1. To evaluate the impact of CEO tenure on corporate environmental disclosure. SO2. To examine the influence of CEO gender on corporate environmental disclosure. SO3. To analyze the impact of CEO remuneration on corporate environmental disclosure.

This study offers four (4) significant contributions. First, the present study enhances the scarce empirical literature by examining the influence of CEO attributes on corporate environmental disclosure among listed non-financial firms in Kenya for a period of eight (8) years (2016-2023). Prior empirical studies in Kenya have largely explored the relationship between CEO attributes and firm value (Akims et al., 2024), CEO tenure and financial performance (Protus and Tuwey, 2024), CEO traits and innovation (Tuwey and Ngeno, 2019), CEO

attributes and financial distress (Rono, 2018), and others. A comprehensive review of the empirical literature reveals a notable gap in studies examining the impact of CEO attributes on corporate environmental disclosure, particularly within the Kenyan context. This gap is significant given Kenya's leading role as an industrialized economy in the East African Community (EAC).

It is worth noting that as industrialized activities increase, the demand for transparency in environmental reporting grows alongside environmental challenges. (López et al., 2025; Sharma et al., 2025). In response, Kenya has strengthened its Environmental, Social, and Governance (ESG) framework, notably with the 2020 introduction of Kenya Sustainability Reporting Standards (KSRS) by the Capital Markets Authority. These standards require listed companies on the Nairobi Securities Exchange to disclose essential information on energy and water usage, waste management, ethical practices, and social responsibility (Karugu et al., 2024). Thus, this study intends to contribute valuable insights to the body of literature and deepen the understanding of corporate governance dynamics in Kenya.

Second, using a balanced panel dataset of 20 listed non-financial firms in Kenya from 2016 to 2023, the study employs econometric modeling, including fixed-effects and random-effects regression models alongside the Generalized Methods of Moments (GMM) to address the endogeneity problem. The GMM model has also been used to address endogeneity problems in other empirical studies. (Abuaddous, 2025; Kitulazzi et al., 2025; Mehedi et al., 2024; Saeed et al., 2025; Thuy Tu Pham, 2021). Thirdly, the current study adopts a multi-theoretical approach to provide a comprehensive understanding of the relationship between CEO attributes and corporate environmental disclosure. A multi-theoretical perspective is essential for understanding the relationship that exists between CEO attributes and corporate outcomes (Nguyen et al., 2020). Accordingly, this study is grounded in two key theories: the Upper Echelons Theory and the Agency Theory. Finally, the present study aims to provide valuable insights for investors, policymakers, and corporate executives seeking to improve corporate governance frameworks in an emerging economy like Kenya.

The rest of the paper is structured as follows. The second section presents the study's background, focusing on the environmental policies and regulations that shape the Kenyan regulatory environment and the necessity for corporate environmental disclosure for companies competing in Kenya's highly competitive business landscape. The third section presents a theoretical literature review highlighting three key theories: Upper Echelon Theory and Agency Theory. The subsequent section focuses on an empirical literature review and

hypothesis development, examining previous empirical studies investigating the influence of CEO attributes (including tenure, gender, and remuneration) on CED. The fifth section presents the methodology, detailing the research design, sample selection process, operationalization of response, explanatory, and control variables, and the specification of the model used in the study. The sixth section discusses the empirical results and the interpretation of the analyzed data. The final section concludes with a summary of the study's findings and suggestions for future research.

2.0 LITERATURE REVIEW

Many scholars in the corporate governance literature have explained how various CEO attributes affect corporate outcomes. For instance, CEO attributes and sustainability reporting (Harindahyani and Tjahjadi, 2025), CEO attributes and environmental sustainability (Mahran & Elamer, 2024; Zhu et al., 2024), and CEO attributes and financial reporting timeliness (Lawal et al., 2024), among others. Most scholars have adopted different theories to establish a link between CEO attributes and corporate outcomes. In many empirical studies, theories used include agency theory, Upper Echelon Theory, Stakeholder Theory, Signaling Theory, and Resource Dependency Theory, among others. In this study, the authors adopt Agency Theory and Upper Echelon Theory to explore the relationship between CEO attributes and corporate environmental disclosure.

2.1 Agency Theory (AT)

Agency theory deals with the agency relationship between the principal and the agent, highlighting the dynamics and potential conflicts that arise between them (Jensen and Meckling, 1976). Agency theorists focus on mitigating the conflict of interest arising between shareholders and management. Notably, the CEO has considerable power in running the firm; if not checked, there is a huge risk that the latter will selfishly aim for goals that neglect the interests of the shareholders and the wider community (Brahma et al., 2025). Thus, it is essential to implement control mechanisms to regulate and oversee management actions led by the CEO. (Lajmi et al., 2025). Furthermore, proponents of Agency Theory note that female CEOs are often associated with participatory leadership styles, stronger communication practices, and enhanced monitoring tendencies (Aloulou & Taktak, 2025; Mishra, 2025). Agency theorists also argue that CEO remuneration and compensation packages can serve as an effective mechanism to minimize conflicts of interest between the agent (the CEO) and the principals (shareholders). Notably, if conflicts are mitigated, shareholder wealth maximization becomes more attainable (HA, 2021; Mukherjee and Sen, 2022; Raithatha, 2021).

2.2 Upper Echelons Theory (UET)

Upper Echelons Theory (UET) was introduced nearly four decades ago by (Hambrick & Mason, 1984). UET argues that CEO attributes and experience significantly impact the corporate outcomes of businesses. Furthermore, UET posits that corporate outcomes, strategic decisions, choices, and the level of corporate performance are highly influenced by the traits or attributes of top executives such as CEOs (Hambrick & Mason, 1984). Proponents of UET view the organization as a mirror image of the top management, and their performance is significantly influenced by the experiences, values, and personalities of the CEOs (Gupta, 2020; Hambrick and Mason, 1984). CEO attributes such as age, tenure, gender, remuneration, and risk-taking propensity can significantly shape an organization's strategic decisions and corporate outcomes (Nwafor et al., 2025). Additionally, UET posits that understanding the attributes of top management, including the CEOs, is vital in providing valuable inputs into the decision-making processes, strategic directions, and the organization's performance (Aryani et al., 2025). Notably, the proponents of UET contend that CEOs' strategic decisions, actions, and choices are largely influenced by their attributes, such as age, tenure, remuneration, gender, and nationality, among others. These attributes are more likely to influence a firm's corporate outcomes, such as financial performance and environmental disclosure, either directly or indirectly (Mukherjee and Sen, 2022).

2.3 Empirical literature review and hypothesis development

2.3.1 CEO tenure and corporate environmental disclosure

Tenure refers to the duration of a CEO's service to the organization (Sirén et al., 2018). This attribute has received much attention in theory and practice in various empirical literatures (Kozachenko, 2025; Lawal et al., 2024; Mukherjee and Sen, 2022; Remo-Diez et al., 2025). The latter attribute determines the CEO's cognitive ability, values, and power, resulting in a huge impact on the firm's strategic decisions, such as corporate environmental disclosure (Brookman and Thistle, 2009; Fukutomi, 1991; Hambrick and Mason, 1984). Furthermore, UET posits that a CEO's tenure influences their cognition, which subsequently impacts their behavior (Finkelstein et al., 2009). The latter theory argues that the longer a CEO remains in office, the greater the chance of adverse effects on strategic decisions, especially those related to environmental changes. This is mainly because long-term CEOs are more accustomed to established routines and practices, making it increasingly difficult for them to adapt to new approaches and styles, including the act of embracing voluntary environmental disclosures (Chithambo et al., 2020; Finkelstein and Hambrick, 1990).

A study conducted among Chinese-listed non-financial firms from 2008 to 2016 indicated the impact of CEO tenure on corporate, social, and environmental disclosures (Khan et al., 2021). Similarly, research in Pakistan, analyzing 150 listed firms on the Pakistan Stock Exchange (PSE) from 2015 to 2022, found that CEO tenure negatively impacts ESG commitments (Rehman et al., 2025). Additionally, a Malaysian study involving 74 listed companies from 2011 to 2013 revealed that CEO tenure negatively influenced corporate environmental disclosure (Razali et al., 2016). These findings imply that longer-serving CEOs are less willing to assume risks associated with publicly disclosing environmental information. Other studies contend that the longer a CEO remains in office, the stronger and more profound his/her relationships with stakeholders. This leads longer-serving CEOs to assert greater power and influence over firms in strategic decisions such as environmental disclosure (Sirén et al., 2018). Thus, CEO tenure reinforces the positive effect of corporate responsibility(Xu et al., 2022). A study conducted in the United Kingdom (UK) among FTSE 350 listed firms found that CEO power, as measured by CEO tenure, positively influences both environmental disclosure and firm value. This suggests that stakeholders tend to associate environmental disclosure with companies led by long-term CEOs who are perceived to have a stronger commitment to these disclosures than their short-term counterparts (Li et al., 2018). In India, a study examining CEO attributes, sustainability reporting formats, and environmental disclosure found that CEO tenure had an insignificant impact on environmental disclosure and sustainability reporting formats (Oware and Awunyo-Vitor, 2021). Thus, based on the above discussion from the empirical literature, we hypothesize the following

H₁: CEO tenure positively influences corporate environmental disclosure

2.3.2 CEO gender and corporate environmental disclosure

Female CEOs bring a fresh and unique perspective to corporate leadership and can significantly impact corporate outcomes. Their diverse viewpoints and experiences can lead to strategic decisions that will enhance the performance of the organization (Nielsen and Huse, 2010). Agency theorists argue that female CEO's leadership styles are more interactive and highly participative. Female CEOs are regarded as having strong communication skills, being more risk-averse, better at monitoring, and having stronger communication skills. These leadership attributes are referred to as a feminine management style (Adams and Ferreira, 2009; Reguera-Alvarado et al., 2015). Proponents of UET contend that firms led by female CEOs tend to be more environmentally conscious than their male counterparts. This implies that their actions should aim at mitigating, identifying, and securing opportunities related to environmental conservation. Thus, we expect female CEOs to influence the firm to focus on disclosing environmental issues (Santoso & Setiawan, 2024).

Different empirical studies have revealed a positive and significant relationship between female CEOs and environmental disclosure. For instance, a study in India revealed that female CEOs of family-controlled firms exerted a positive and statistically significant impact on environmental disclosure (Oware et al., 2022). Likewise, a study conducted among the listed manufacturing firms in Indonesia revealed that female CEOs significantly increase carbon emissions (Fuadi et al., 2024). Thus, the presence of female CEOs on the corporate ladder is linked to better environmental disclosure (Lagasio and Cucari, 2019). From an empirical review of both seminal and old literature, we hypothesize the following;

H₂: CEO gender positively influences corporate environmental disclosure

2.3.3 CEO remuneration and corporate environmental disclosure

Proponents of the agency theory (AT) argue that attractive remuneration to the CEO is an effective mechanism that can be used to mitigate the conflict of interest existing between the agent (CEO) and the principal (shareholders/owners) of the firm. Additionally, once the conflict of interest between the agent and shareholders is fully addressed, it becomes easier for the shareholders' interest to be maximized (HA, 2021; Mukherjee and Sen, 2022; Raithatha, 2021). Furthermore, the agency costs that might arise when executive directors and CEOs put their self-interest motives before those of the firm can be addressed by embracing firm performance-based compensation (Hundal et al., 2025). In a fast-changing world where shareholder interests vary, the CEO's remuneration packages must be structured in a manner that promotes environmental sustainability and reporting. In this context, CEO remuneration is recognized as a key ingredient that spurs organizational strategies and initiatives aimed at enhancing transparency and accountability in corporate environmental disclosures (Almici, 2022). A study conducted among listed firms in the United States of America (USA) showed that environmental and corporate governance performance positively influences a firm's executive compensation (Huang et al., 2025).

From the empirical review of both seminal and old literature, we hypothesize the following;

H₃: CEO remuneration positively influences corporate environmental disclosure

2.4 Conceptual framework

The study is based on a conceptual framework that explores the relationships between CEO attributes, specifically CEO tenure, remuneration, and gender, and corporate environmental disclosure (CED). This framework draws upon two key theories: agency theory and upper-echelon theory. Additionally, it takes into

account important control variables such as board size, firm size, profitability, and Gross Domestic Product (GDP), which reflect governance capabilities, resource availability, financial performance, and macroeconomic influences. Figure 1 illustrates the framework, highlighting how these variables interact to shape CED.

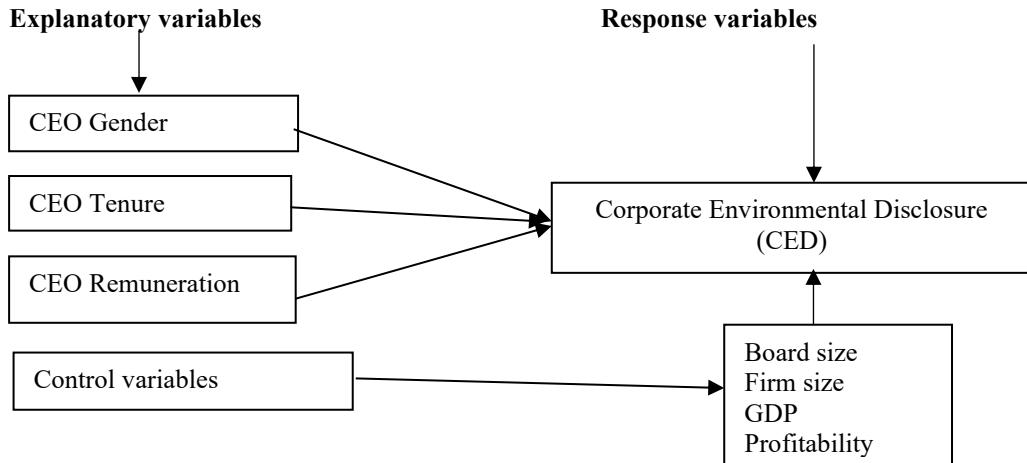


Figure 1: CEO attributes and control variables

3.0 RESEARCH METHODOLOGY

3.1 Research design and approach

This study employs a quantitative explanatory design on archival content analysis. The explanatory research design is commonly used to examine the cause-and-effect relationship that exists between variables. The same design was applied by previous empirical studies (Ali, 2024; Basile et al., 2025; Papadopoulou et al., 2026). The present study analyzes the impact of CEO attributes (CEO tenure, gender, and remuneration) on corporate environmental disclosure. To achieve this, the study is guided by a quantitative methodological approach focusing on the archival research technique through content analysis similar to previous studies (Ngole and Mabonesho, 2023; Ribeiro et al., 2024).

3.2 Study area and population

The study targets non-financial firms listed on the NSE in Kenya. Kenya's position as one of the more industrialized economies within the East African Community (EAC) faces significant environmental challenges, particularly industrial pollution. As a result, transparency regarding environmental reporting is crucial. Recently, Kenya has enhanced regulations surrounding Environmental, Social, and Governance (ESG) practices, especially for listed firms at the NSE. For instance, in 2020, the Capital Markets Authority (CMA) released the Kenya

Sustainability Reporting Standards (KSRS) among Kenyan listed firms. The guidelines categorically state metrics such as water usage, energy consumption, waste management, ethical practices, and socially related issues for listed firms at the Nairobi Securities Exchange (NSE) (Karugu et al., 2024). Additionally, Kenyan companies face unique institutional pressures and governance challenges that differ from those in developed economies, influencing how CEO traits affect environmental disclosure. The composition and independence of boards in Kenya also vary from those in other countries, providing an opportunity to explore how these differences shape practices. By highlighting these aspects, we reinforce the case for focusing on Kenya and demonstrate how this study contributes meaningfully to the existing literature.

NSE was purposively chosen as it is the oldest and largest capital market in East Africa, boasting 65 listed firms and a market capitalization of \$9.57 billion as of December 2023 (Olujinmi, 2023). Additionally, non-financial firms listed at the NSE were purposively selected since environmental disclosures increase in highly polluting industries such as oil and gas, chemicals, metal, non-metal mining, food, and drinks, resulting in an increased demand for transparency in environmental reporting (López et al., 2025; Sharma et al., 2025). Furthermore, listed financial firms such as banks, insurance firms, and investment firms were left out of the sample due to their nature of operations and capital structure, which differ significantly from listed non-financial firms. Thus, the study targeted listed non-financial firms at the NSE, including energy, manufacturing, agricultural, construction, and allied industries. The study spans eight (8) years from 2016 to 2023. The study period was appropriate because 2015 was the year the United Nations established and ratified the Sustainable Development Goals (SDGs). Because corporate environmental disclosure aligns with SDG 13 (climate action), choosing 2016 as the benchmark year was highly appropriate.

3.3 Sample selection steps

The sample selection steps are summarized in Table 1.

Table 1: Sample selection steps

Description	Number of firms
Total number of non-financial firms listed on the NSE	65
Less: Listed financial firms	(28)
Less: Firms with incomplete annual reports	(17)
Final Sample	20
Period (2016-2023)	8 years
Firm-year observations (20 firms x 8 years)	160 firm-year observations

3.4 Data types and sources

The current study used secondary data to analyze the impact of CEO attributes on the CED of 20 listed non-financial firms at the Nairobi Securities Exchange (NSE) from 2016 to 2023. Secondary data were sourced from annual reports and audited financial statements retrieved from the African Financials website accessed via <https://africanfinancials.com/>. The latter website helps listed firms in Africa communicate effectively with investors and other stakeholders by disclosing annual reports and audited financial statements. Moreover, some data were sourced from the World Bank Databank, which is freely accessible at <https://databank.worldbank.org/source/world-development-indicators>.

3.5 Variable measurement and operationalization of variables

This study used corporate environmental disclosure as the response variable and three CEO attributes as explanatory variables: CEO tenure, gender, and remuneration. Corporate environmental disclosure is a report to stakeholders outlining an organization's environmental initiatives. The research used the Global Reporting Initiative (GRI) standards to assess a firm's environmental disclosure. Specifically, GRI 3 was used to outline the process for identifying and managing topics such as those with significant impact on the economy, environment, and people (Adams et al., 2021). The corporate environmental disclosure checklist indicator words used in this study are defined in Table 2.

Table 2: Adopted checklist words used to measure corporate environmental disclosure

Original checklist indicator words for GRI G3	Lists adopted in this study	Reference
Environmental grievance mechanism. Supplier environmental assessment, transport, compliance, services, waste products, emissions, water, energy, biodiversity, and materials	Pollution, carbon, warming, climate, environment, waste, emissions, water, energy, and biodiversity.	(Miklosik et al., 2021)

Furthermore, the control variables were classified into three categories, namely: board control variable (board size), firm control variables (firm size and profitability as measured by ROA), and industry control variable (Gross Domestic Product). The inclusion of four control variables, namely firm size, board size, profitability, and GDP, is grounded in recent empirical studies. For example, the size of the board influences its capacity for monitoring and the quality of governance, which can in turn impact environmental disclosure (Basile et al., 2025). Firm size is accounted for because larger non-financial firms typically face more significant stakeholder pressure and tend to have greater resources for environmental reporting (Hsieh et al., 2025). Profitability, measured by Return on Assets (ROA), affects a firm's ability to invest in voluntary

reporting and sustainability initiatives. Furthermore, Gross Domestic Product (GDP) serves as a control for macroeconomic conditions that can affect firms' disclosure practices (Lu & Wang, 2021).

Table 3 presents the variable names, acronyms used, measurements of variables, data sources, and previous empirical studies.

Table 3: Variable names, acronyms, measurements, data sources, and previous studies

Variable	Notation	Measurement	Source of the data	Previous studies
Response Variable	RV			
Corporate environmental disclosure	CED	Number of items disclosed by the firm Number of items disclosed based on the GRI index	As derived from the annual reports	(Magoma et al., 2024; Miklosik et al., 2021)
Explanatory variables	EV			
CEO tenure	CeoTE	1 if the CEO has served the company for more than 5 years, 0 otherwise	As derived from the annual reports	(Harymawana et al., 2019; Mukherjee and Sen, 2022)
CEO gender	CeoGE	1 if the CEO is female, otherwise 0	As derived from the annual reports	(Chekenya & Mundava, 2025; Lawal et al., 2024)
CEO remuneration	CeoRE	Natural log of the CEO's total annual compensation at period t	As derived from the annual reports	(Grey et al., 2024; Mukherjee and Sen, 2022)
Firm control variables	FCV			
Firm Size	Fsize	Natural Log (Total assets)	Calculated using data extracted from the financial statements	(Bawuah, 2024; Mshana, 2024; Mshana et al., 2025; Tago and Sumawe, 2024)
Profitability	ROA	Ratio of Net profit divided by total assets	Calculated using data extracted from the financial statements	(Chekenya and Mundava, 2025; Mshana et al., 2025; Sumawe and Magoti, 2024)
Board Control variable	BCV			
Board size	Bsize	Board members serving on the board during the financial year	As determined from the annual reports	(Bawuah, 2024; Lei et al., 2023; Mshana, 2024)

Variable	Notation	Measurement	Source of the data	Previous studies
Industry control variables	ICV			
Gross Domestic Product (Annual %)	GDP	Represents the increase in the annual gross domestic product	World Bank Development Indicators	(Mansour et al., 2026; Papadopoulou et al., 2026)

3.6 Description of an econometric model.

The econometric model equation represents the relationship between the response, explanatory, and control variables as seen under;

$$CED_{it} = \beta_0 + \beta_1 EV_{it} + \beta_2 FCV_{it} + \beta_3 BCV_{it} + \beta_4 ICV_{it} + \varepsilon_{it} \dots \dots \dots \text{Eqn 1}$$

- CED_{it} represents corporate environmental disclosure at a time

The explanatory variables (EVs) are CEO remuneration, CEO gender, and CEO tenure measured at time t

Finally, the control variables (CVs) are classified into three categories;

- The board control variable (BCV) is represented by the board size measured at time t.
- Firm control variables (FCVs) are represented by profitability and firm size measured at time t
- Industry control variable (ICVs) is represented by GDP measured at time t.

β_0 = constant term

ε_{it} = Error term

4.0 RESULTS AND DISCUSSION

4.1 Multicollinearity test and descriptive statistics

Table 4 presents the results of the multicollinearity test. The presence of multicollinearity in the dataset indicates a biased relationship between variables, as noted by other scholars (Kimario and Kira, 2023; Kimario and Mwagike, 2023). Table 4 shows that the highest value of the variance inflation factor (VIF) is 2.885, while the maximum tolerance value (1/VIF) is 0.997. These values remain below the recommended threshold of 10 for VIF and above the acceptable threshold of 0.1 for 1/VIF, as pointed out by. This indicates that the dataset is free from multicollinearity problems. Furthermore, Table 4 displays the descriptive statistics of all the variables used in the study. The study examines the influence of CEO attributes on CED for listed non-financial firms in Kenya for a span of 8 years (2016 to 2023). The descriptive statistics include the

minimum, maximum, mean, and standard deviation for variables such as CEO tenure (CEOTE), CEO gender (CEOGE), CEO remuneration (CEORE), board size (Bsize), firm size (Fsize), profitability (ROA), and Gross Domestic Product (GDP).

Table 4: Multicollinearity test and descriptive statistics

	CED	CEOTE	CEOGE	CEORE	Bsize	Fsize	ROA	GDP
VIF	-	1.795	1.091	1.343	1.841	2.885	1.044	1.003
1/VIF	-	0.557	0.916	0.745	0.551	0.347	0.958	0.997
Min	0.00	0.00	0.00	0.00	4.00	5.30	-49.00	-0.30
Max	88.00	1.00	1.00	12.00	16.00	13.20	35.00	8.00
Mean	43.00	0.42	0.19	7.01	9.00	9.34	3.55	4.58
SD	24.73	0.49	0.39	4.64	2.57	1.90	10.34	2.12
Obs	160.00	160.00	160.00	160.00	160.00	160.00	160.00	160.00

Table 2 presents the definitions and measurements of all variables.

4.2 Correlation Matrix

Correlation analysis examines the relationship between two or more variables by assessing both the nature and strength of the relationship. This analysis helps determine how changes in one variable may relate to changes in another variable (Mukherjee & Sen, 2022). Table 5 presents the correlation matrix results between CEO attributes and CED. The result reveals that CED is positively and significantly related to CEORE ($r=+0.203$, $p\text{-value}=0.010$), Bsize ($r=+0.623$, $p\text{-value} = 0.000$), and FS ($r=+0.643$, $p\text{-value} = 0.000$). Other variables showed negative and significant relationships, such as CEOTE ($r=-0.585$, $p\text{-value} = 0.000$) and ROA ($r=-0.194$, $p\text{-value} = 0.014$). GDP was found to be positively and insignificantly related to CED ($r = +0.043$, $p\text{-value} = 0.587$), and CEOGE had a negative and insignificant relationship with CED ($r = -0.093$, $p\text{-value} = 0.246$). All variables were measured at the 5% significance level.

Notably, the maximum observed correlation coefficient was 0.643, below the benchmark of ± 0.7 or ± 0.8 , implying that multicollinearity is unlikely to be a concern (Papadopoulou et al., 2026)

Table 5. Correlation Matrix

CEO attributes and Corporate Environmental Disclosure (CED)								
	CED	CeoRE	CeoTE	CeoGE	Bsize	FS	GDP	ROA
CED	1							
CeoRE	.203*	1						
		.010						
CeoTE	-.585**	-.060	1					
		.000	.451					
CeoGE	.093	.065	-.211**	1				
		.246	.418	.008				
Bsize	.623**	.168*	-.447**	.073	1			
		.000	.034	.000	.361			
FS	.643**	.417**	-.596**	.039	.657**	1		
		.000	.000	.000	.626	.000		
GDP	.043	.029	-.006	-.015	-.011	.018	1	
		.587	.720	.943	.855	.892	.825	
ROA	.194*	-.096	-.049	-.083	.098	-.022	.023	1
		.014	.229	.538	.296	.215	.786	.768

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

4.3 Hausman tests

Table 6 also presents the Hausman test results. The test reveals that a fixed-effects model is suitable.

Table 6. Hausman's Test

Panel A: CEO attributes and CED		
Chi-Sq Statistic	Prob	Remarks
18.261537	0.0106	The fixed effect (FE) model is selected.

4.4 Regression results

Table 7 presents the panel regression results. CEO tenure has a positive and significant impact on CED, while CEO remuneration and gender exert a negative and insignificant influence on the CED of 20 listed non-financial firms at the NSE. Additionally, the adjusted R-squared value for this model is 78.70%, indicating that 78.70% of the variation in CED is explained by the dependent variables used in this particular study. For the control variables used in the study, the coefficient of Bsize (-0.618) exerted a negative and significant impact on

CED, the coefficient of ROA (0.045) exerted a positive and insignificant impact on CED, the coefficient of Fsize (0.2861) exerted a positive and significant impact on CED, and the coefficient of GDP (0.005) exerted a positive and insignificant influence on CED.

Table 7. Regression results

Variables	CED	
	FE	RE
CEOTE	0.0211 (0.372)	0.394 (0.113)
CEOGE	0.627 (-0.04)	0.7995 (-0.023)
CEORE	0.1796 (-0.01)	0.3161 (-0.007)
Bsize	0.027 (-0.618)	0.4462 (-0.179)
ROA	0.1415 (0.045)	0.099 (0.048)
FS	0.0000 (0.2861)	0.0000 (0.261)
GDP	0.6459 (0.005)	0.6311 (0.005)
Constant	0.0042 (2.067)	0.0066 (1.4318)
R ²	82.20%	19.21%
Adj R ²	78.70%	15.46%
F-statistics	23.45	5.13
Prob (F-statistics)	0.0000	0.0003
Hausman test (See Table 6)	FE model is selected	
No of Observations	160.00	160.00

Table 2 presents the definitions and measurements of all variables.

Table 8: Hypothesis

S/N	Hypothesis	Statement	Prob	Accept/reject
1	H ₁	CEO tenure positively influences CED	0.046	Accept
2	H ₂	CEO's gender positively influences CED	0.435	Reject
3	H ₃	CEO remuneration positively influences CED	0.205	Reject

Table 8 presents the results of the hypotheses used in this study.

4.5 Robustness checks

Endogeneity is a prevalent issue in panel data sets, arising when explanatory variables exhibit correlation with the error term, thereby compromising the reliability and accuracy of the findings (Assenga et al., 2018; Ntim et al., 2012).

To enhance the credibility and robustness of the panel data estimations, this study employs the Generalized Method of Moments (GMM) for robustness checks. This methodological approach aligns with prior empirical studies (Abuaddous, 2025; Kitulazzi et al., 2025; Mehedi et al., 2024; Saeed et al., 2025; Thuy Tu Pham, 2021). Table 9 depicts the results of the robustness checks. The GMM estimates are consistent with the FE results presented. Notably, scholars have emphasized that applying multiple analytical techniques and obtaining consistent results strengthens the reliability and validity of the research outcomes (Hordofa, 2023; Magoma et al., 2024).

Table 9: Robustness checks

Variables	PANEL A: CED	
	FE	GMM
CEOTE	0.0211 (0.372)	0.023 (0.025)
CEOGE	0.627 (-0.04)	0.5337 (-0.722)
CEORE	0.1796 (-0.01)	0.1662 (-1.059)
Bsize	0.027 (-0.618)	0.0000 (-2.43)
ROA	0.1415 (0.045)	0.5016 (-0.068)
FS	0.0000 (0.2861)	0.2436 (-0.343)
GDP	0.6459 (0.005)	0.5824 (0.002)
R ²	82.20%	-
Adj R ²	78.70%	-
F-Statistics	23.45	-
Prob (F-statistics)	0.0000	-
Prob AR (1)	-	0.0289
Prob AR (2)	-	0.4819
No. of listed non-financial firms	20	20
No. of years	8	8
No of Observations	160.00	160.00

Table 2 presents the definitions and measurements of all variables.

4.6 CEO tenure

CEO tenure was measured based on the binary number where 1 was allotted if the CEO served the company for more than 5 years, and 0 otherwise (Harymawana et al., 2019; Mukherjee and Sen, 2022). Table 7 reveals that CEO

tenure exerted a positive and significant impact on the CED of 20 listed non-financial firms at the NSE from 2016 to 2023. Thus, H_1 is accepted. Previous studies reported similar results (Li et al., 2018; Xu et al., 2022). Proponents of UET argued that CEO attributes and their vast experience at the corporate level influence corporate environmental disclosure (Hambrick & Mason, 1984). Furthermore, it was argued that longer-serving CEOs assert greater power and influence in the firm's strategic decisions and directions (Sirén et al., 2018). Notably, stakeholders tend to associate environmental disclosure with companies led by long-tenured CEOs who are perceived to have a stronger commitment to environmental-related issues as compared to their short-tenured counterparts (Li et al., 2018). Thus, the results imply that longer-tenured CEOs are more likely to assume risks associated with publicly disclosing environmental-related information.

4.7 CEO gender

The CEO's gender was measured using binary numbers, where 1 is allotted if the CEO is a female, and 0 otherwise (Chekenya & Mundava, 2025; Lawal et al., 2024). The result reveals that the CEO's gender negatively and insignificantly impacts on CED. Thus, H_2 is rejected. The results are contrary to previous empirical studies. For instance, a study conducted in India revealed that female CEOs exerted a positive and statistically significant impact on environmental disclosure (Oware et al., 2022). Likewise, another study conducted in Indonesia recorded the same results (Fuadi et al., 2024). In this context, the results are not supported by UET. Notably, the proponents of UET argue that firms led by female CEOs tend to be environmentally conscious as compared to their male counterparts, suggesting that their actions aim at mitigating, identifying, and seizing opportunities related to conserving the environment (Santoso & Setiawan, 2024).

4.8 CEO remuneration

The third hypothesis (H_3) states that CEO remuneration positively influences corporate environmental disclosure. The results reveal that CEO remuneration had a negative and insignificant impact on CED. Thus, H_3 is rejected. The results are contrary to a study that was conducted in the United States of America (Huang et al., 2025). The results are not supported by UET theorists who argue that CEO attributes, including CEO remuneration, greatly influence corporate decisions and outcomes such as corporate environmental disclosure (Hambrick & Mason, 1984). Furthermore, the results are also not supported by the agency theorists who argue that CEO remuneration packages must be structured in a manner that promotes environmental sustainability and reporting by acting as a key ingredient

that spurs firms to strategize and start initiatives aimed at enhancing environmental protection and accountability (Almici, 2022).

5.0 CONCLUSION AND RECOMMENDATIONS

The paper examined the impact of CEO attributes on corporate environmental disclosure of 20 listed non-financial firms at the Nairobi Securities Exchange, in Kenya, from 2016 to 2023. The analysis specifically highlighted the role of CEO tenure, remuneration, and gender in influencing the extent and quality of environmental disclosures. The study results indicate that CEO tenure positively influences corporate environmental disclosure. The results suggest that firms led by long-serving CEOs are more likely to adopt and implement robust environmental reporting practices. This may be attributed to the accumulated organizational knowledge, experience, and accountability connected with long-tenured CEOs. The results align with the UET. Additionally, the results also reveal that both CEO remuneration and gender exerted a negative and insignificant impact on corporate environmental disclosure.

Theoretically, this study contributes to the growing body of empirical literature connecting top management attributes to non-financial reporting practices in an emerging economy like Kenya. The study emphasizes the importance of top management in driving sustainability initiatives across the capital market in Kenya.

Practically, the results suggest that practitioners, boards, investors, and regulators should consider CEO tenure as an important governance characteristic in relation to corporate environmental reporting. Notably, the regulatory bodies may consider CEO tenure as a relevant factor when evaluating a firm's commitment to sustainable environmental practices.

5.1 Limitations and Areas for Future Studies

While the study provides important insights, it has some notable limitations. The exclusion of listed financial firms at the Nairobi Securities Exchange (NSE) implies that the findings may not be generalizable across all industries. Future research should explore additional CEO attributes, such as political connections, educational background, international exposure, duality, and age, in the quest to provide a more comprehensive understanding of top-level management's role and corporate governance across non-financial listed firms across the African continent.

In conclusion, this study adds to the existing literature by highlighting the significance of CEO attributes in shaping corporate outcomes, specifically

corporate environmental disclosure. It also offers empirical support for both Upper Echelon Theory and Agency Theory. Future studies can expand on these findings by examining the relationship across the African continent and incorporating additional variables to enrich the analysis and offer broader perspectives.

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