Chief executive officers (CEO) attributes, firm characteristics, and sustainability reporting among quoted manufacturing firms in Nigeria

Osazee Frank Ogieva* and Edet Ehikpehai
Department of Finance, University of Benin, Edo State

* Corresponding author: osazee.ogieva@uniben.edu +234 806 164 9454

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Abstract

This study examined the influence of CEO attributes (tenure, power, and gender) and firm characteristics (size, age, and leverage) on sustainability reporting among 43 manufacturing firms listed on the Nigerian Exchange Group. Using panel data from 2010 to 2020, the authors applied descriptive statistics and regression techniques, including fixed and random effects models, supported by diagnostic tests and the Hausman specification test. Findings revealed that CEO power, tenure, and gender significantly affect sustainability reporting, while firm size and age also play key roles. The study emphasizes the importance of leadership in driving sustainability practices within firms. It recommends that companies equip CEOs with clear mandates and resources to promote sustainability and prioritize leadership continuity through strategic succession planning. Ensuring smooth CEO transitions and embedding sustainability expertise in leadership roles are essential for maintaining consistent sustainability efforts in Nigeria's manufacturing sector. These insights offer practical guidance for governance and policy in corporate sustainability.

Keywords: CEO attributes, firm characteristics, sustainability reporting, manufacturing firms

Introduction

A firm is typically a production unit that uses inputs to generate goods and services at a specific technological level. It may also refer to a commercial entity that sells goods and services for a profit, such as a limited liability company, corporation, or partnership. The objective of any firm is to maximize the welfare of shareholders and the environment in which they operate (Innocent & Gloria, 2018). Recently, sustainability reporting has garnered increased scholarly

attention and has become a global priority. Sustainability reporting is the process through which companies disclose the economic, environmental, and social impacts of their operational activities in their financial statements (Global Reporting Initiative, 2019). When companies neglect ecological responsibilities, their operations often lead to environmental degradation, transformation, effluence, and harm to communities where they operate. Researchers have observed significant ecosystem changes resulting from manufacturing firms' activities (Rashid, Shams, Bose, & Khan, 2020). This irresponsible conduct is often reflected in financial statements and can negatively affect a firm's long-term corporate value. To achieve sustainability in operations, firms in oil and gas, consumer, and industrial sectors must implement measures to mitigate negative impacts such as waste, emissions, social issues, and unfair treatment of employees. Success is deemed achieved when these efforts are realized (Joseph, 2016). Corporate existence hinges on effective management of both financial and non-financial activities (Astley & Sachdeva, 2019). Thus, a manufacturing sector firm is sustainable when it incorporates financial, environmental, and social information in its financial statements.

In recent years, corporate sustainability reporting disclosure has received global acceptance, as corporate managers increasingly recognize its importance and incorporate it into their activities. Sustainability reporting meets shareholder needs while enhancing societal well-being. Such reporting enables evaluation of selected quoted firms' activities, with the Chief Executive Officer (CEO) playing a pivotal role. The influence of the CEO in sustainability reporting is significant and cannot be overstated (Kofi, Oware, & Amunyo, 2021). The CEO, as the highest-ranking officer, is responsible for business growth, profitability, shareholder value, and overseeing all operations. CEO attributes strongly influence corporate decisions, consistent with agency theory, which posits the CEO's role in defining corporate goals and sustainability reporting (Pucheha & Gallego, 2021). Finkelstein (2016) notes that CEO attributes reflect the ability to resolve conflicts and impact critical decisions. CEOs design companies to generate wealth and capitalize on opportunities, extending their responsibilities beyond shareholder wealth to employees and host communities (Glick, 2011). Consequently, CEO characteristics provide insight into a company's operational effectiveness in sustainability reporting.

However, beyond CEO attributes, sustainability reporting in industries is influenced by broader contextual factors and firm characteristics (Adams, 2017). Firm characteristics refer to qualities that define a company's operations and influence financial decisions and disclosure policies. They affect decisions to disclose non-financial information, such as environmental reporting. Elkington

(2017) identifies key elements influencing sustainability reporting: business size, financial leverage, audit firms, profitability, tax rates, liquidity, firm age, and industry position. Corporate characteristics have long been studied as predictors of sustainability reporting. Recognizing CEO attributes, firm characteristics, and sustainability reporting among Nigerian manufacturing firms is crucial due to changing environmental, social, and economic issues. Environmental pollution caused by corporate activities in Nigeria has prompted organizations such as Business in the Community (BITC) and the Global Reporting Initiative (GRI) to develop reporting guidelines to standardize environmental, social, and economic information. The call for sustainability reporting aims to foster environments that enable corporations and societies to operate effectively (Votsi, Kallimanis, & Pantis, 2017). This study examines the impact of CEO attributes—tenure, power, and gender—and firm characteristics—size, age, and leverage—on sustainability reporting among quoted manufacturing companies in Nigeria.

Literature Review

Conceptual Review

Sustainability Reporting

Sustainability reporting is widely considered superior to traditional reporting. While voluntary in some countries, it is mandatory in others, involving voluntary, requested, or required disclosure of non-financial performance data (Erkens, Paugam, & Stolowy, 2015). It encompasses economic, environmental, social, and governance standards, helping organizations build trust and reputations through social responsibility and risk management. This communication provides stakeholders with non-financial information impacting business performance (Arvidsson, 2019). The Non-Financial Reporting Directive (NFRD), recently amended to the Corporate Sustainability Reporting Directive (CSRD), mandates sustainability reporting for EU corporations. Reporting can take different forms such as non-financial, CSR, or socio-environmental reports. Multinational firms increasingly incorporate CSR and sustainability disclosure into operations worldwide (Buallay, 2022). CSR reports help firms satisfy stakeholders and improve society (Campbell, 2007), reduce information asymmetry, and enhance decision-making (Du, Bhattacharya, & Sen, 2010). Institutional pressures also compel CSR disclosure, as companies respond to societal expectations and governmental regulations. Companies disclose sustainability practices in alignment with the Sustainable Development Goals 2030 (SDGs, 2019) (Buallay, 2022). Integrated reports combine financial, social, and environmental reporting

to better serve stakeholders, while standalone reports address social and environmental issues separately (Hassan & Hosain, 2015; Hassan & Guo, 2017).

CEO Attributes

CEO Power

CEO power refers to the ability to overcome obstacles and influence major organizational decisions, gained formally or informally. The CEO oversees operations, manages financial resources, and liaises between the board and operations. Historically, the CEO role has been the most powerful in a firm (Hamori & Kakarika, 2009). CEO power influences corporate decisions, including CSR reporting, consistent with agency theory. Adams *et al.* (2005) define CEO power as the ability to confront internal and external opposition and influence decisions. CEO power stems from the role's capacity to position the organization to generate profits and maximize stakeholder value (Hassan & Guo, 2017).

CEO Tenure

CEO tenure—the length of time in office—has drawn managerial attention due to rising stakeholder expectations for CSR. Stoian and Gilman (2017), Chen *et al.* (2019), and Khan *et al.* (2020) find CEO tenure negatively affects CSR performance, as long-term CEOs may resist change (Hambrick & Fukutomi, 1991). Khan *et al.* (2020) report firms with shorter-tenured CEOs disclose more social and environmental data, indicating a negative relationship between tenure and CSR focus.

CEO Gender

Research has examined female CEOs, CEO duality, board diversity, and female directors' impact on sustainability reporting, particularly in India (Hassan *et al.*, 2020; Hassan & Guo, 2017). Studies highlight patriarchal societal barriers limiting women's advancement to leadership roles (Neffe *et al.*, 2020). Assessing female CEOs' potential to enhance economic outcomes comparable to men remains important.

Firm Characteristics

Firm characteristics influence disclosure levels. Key aspects include size, age, profitability, industry type, and leverage, with firm characteristics as independent variables and environmental disclosure as the dependent variable (Cormier &

Gordon, 2017). Definitions vary, reflecting company, market, and capital structure factors (Wang, 2017).

Firm Size

Firm size affects production costs and reporting frameworks. Distinguishing between plant, firm, and industry clarifies size effects. Increasing awareness of environmental impacts drives calls for robust sustainability reporting to enhance accountability and transparency. Past accounting scandals and environmental disasters have heightened ethical conduct awareness (Skouloudis *et al.*, 2014; Pareek & Sahu, 2019). Historically, profit maximization guided owner-run firms, but financial reports primarily address financial issues, neglecting non-financial matters (Agnes, 2018).

Firm Age

Firm age influences financial performance and sustainability reporting. Mature firms often perform better but may decline without adaptation (Habbash & Haddad, 2020). Older firms tend to disclose more natural wealth information, feel community connection, and recognize the investor benefits of transparency (Wang, 2017).

Leverage

Leverage—the ratio of debt to equity—affects agency costs and disclosure behavior. While some studies find leverage increases disclosure (Malone, Fries, & Jones, 2017), others show high leverage discourages it due to costs (Andrikopoulos & Kriklani, 2013). Leverage can legitimize business practices by satisfying creditors and shareholders (Haniffa & Cooke, 2015). High leverage involves risk but can facilitate growth through asset acquisition. CSR spending varies with leverage.

Theoretical Framework

This study is grounded in stakeholder theory (Freeman, 1984), which posits that organizations must interact fairly with primary stakeholders—shareholders, investors, employees, suppliers, clients, government, and local communities—and secondary stakeholders who indirectly affect or are affected by operations. Maintaining these relationships is essential for resource access and organizational survival (Chariri & Ghozali, 2014).

Review of Empirical Studies

Talat *et al.* (2021) analyzed CEO tenure's impact on corporate social and environmental performance (CS & EP) in China (2009–2015), finding a

significant negative effect. Coastal firms mitigated this impact better than non-coastal ones, with CEO salary rising alongside CS & EP. Talat *et al.* (2020) also found longer CEO tenure negatively affected firm social and environmental performance (8.8%). Early-career CEOs showed superior CSR performance, consistent with career concern theory.

Kofi *et al.* (2021) studied CEO power, sustainability reporting format, and environmental disclosure among Indian listed firms, finding a positive link between reporting format and disclosure. The study highlights the strategic benefit of standalone sustainability reporting in protecting investors and investments.

Khalid, Kouhy, and Hassan (2017) examined firm characteristics affecting corporate social and environmental disclosure (CSED) in Jordan's manufacturing industry. Firm size, audit firm type, and financial performance positively correlated with CSED, while profitability, age, industry type, and ownership did not.

Wang (2017) investigated firm size and sustainability reporting in Taiwanese companies, confirming relationships with board size and independence, asset staleness, and firm growth, while director ownership and share prices negatively correlated with reporting.

Felix and Idowu (2021) studied firm age and sustainability reporting in South African petroleum companies (2008–2017), finding a positive relationship between age and sustainability reporting. Employee disclosure had no significant effect on performance. The study recommends incorporating sustainability reporting to enhance financial performance via competitive advantage.

Muttalib (2014) analyzed sustainability reporting scope and quality among Malaysian companies post-mandatory disclosure. The infrastructure, finance, and plantation sectors led in reporting quality, while the hotel sector lagged, highlighting sectoral differences in sustainability reporting practices.

Methodology

This study employs a longitudinal research design to analyze the impact of CEO attributes and firm characteristics on sustainability reporting among quoted manufacturing firms in Nigeria. A longitudinal approach allows for the examination of changes and trends over time, providing deeper insights into the

relationships between these variables. The study focuses on 43 manufacturing firms listed on the Nigerian Exchange Group, purposively selected from a total population of 177 active firms as of December 2021. These firms were chosen due to their significant environmental impact and the availability of relevant data. The study relies on secondary data extracted from annual reports covering the period from 2010 through 2021.

Panel data analysis was used to assess the relationship between CEO tenure, CEO power, CEO gender, firm age, firm size, and firm leverage on sustainability reporting. This method is appropriate because it enables tracking of firm-specific characteristics over time, offering a more comprehensive analysis of sustainability reporting practices. To model the relationship between the variables, the study adapts and extends the econometric model used by Nwaiwu and Oluka (2018). The model expresses sustainability reporting as a function of CEO attributes and firm characteristics, with the regression equation incorporating CEO tenure, CEO power, CEO gender, firm age, firm size, and firm leverage as explanatory variables. The expected relationships suggest that all these independent variables positively influence sustainability reporting.

The economic model that Nwaiwu and Oluka (2018) previously utilized was adapted and modified for this study. The econometric model used in their research, denoted by firm characteristics and sustainability reporting, is specified below.

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + U_{it}$$

Where:

i represents individual firms at time *t*

α represents the intercept term

β_1 through β_3 are the parameters of the model to be estimated

Y is the dependent variable, representing sustainability reporting

X_1 through X_3 denote the firm characteristics, assessed by revenue growth, firm size, and financial leverage, respectively

However, this study adapted the aforementioned scholarly work by incorporating additional variables related to CEO attributes—namely, CEO tenure, CEO power, and CEO gender—as well as firm characteristics such as firm age, firm size, and firm leverage. This was done to deepen the scope of analysis, considering the peculiarity of the sector under investigation. Therefore, the regression model is specified as follows:

The functional form of the model is given as:
$SRt = F\{CEOT, CEOP, CEOG, FA, FS, FLev\}$
The econometric form of the equation is specified as follows:
$SR_{it} = \beta o + \beta_1 CEOT_{it} + \beta_2 CEOP_{it} + \beta_3 CEOG_{it} + \beta_4 FA_{it} + \beta_5 FS_{it} + \beta_6 FLev_{it} + U_{it}$
Where:
SRt = Sustainability Reporting in year
$CEOT_{it}$ = CEO Tenure to sustainability reporting in year t
$CEOP_{it}$ = CEO Power to sustainability reporting in year t
$CEOG_{it}$ = CEO Gender to sustainability reporting in year t
FA_{it} = Firm Age to sustainability reporting in year t
FS_{it} = Firm Size to sustainability reporting in year t
$FLev_{it}$ = Firm Leverage to sustainability reporting in year t
t = time
$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ *and* β_6 = coefficient of independent variables

Ut is the idiosyncratic error term, assumed to be normally and independently distributed with a zero mean and constant variance. It accounts for all explanatory factors not included in the model but that may affect the firm characteristics being reported.

Data analysis includes descriptive statistics to summarize key features of the dataset, such as mean, standard deviation, skewness, and normality tests. Diagnostic tests—including variance inflation factor (VIF), serial correlation, heteroskedasticity, and model misspecification tests—are conducted to ensure the robustness of the results. The study employs both fixed effects and random effects models to analyze the panel data, with the Hausman test used to determine the most appropriate model for interpretation. The final estimation of the impact of CEO attributes and firm characteristics on sustainability reporting is conducted using the panel least squares regression technique.

Results and Discussions

Preliminary Analyses

This involved thorough cleaning and preprocessing of the dataset to improve data quality, accuracy, and dependability for analysis, reporting, and decision-making. Descriptive statistics such as mean, median, maximum, minimum, standard deviation, skewness, and kurtosis were used. Correlation analyses were also conducted.

Table 1:

Descriptive Statistics of Research Variables

Statistics	SR	CEOT	CEOP	CEOG	FA	FS	FLEV
Mean	1.00	3.2537	0.6539	0.1268	49.5476	9.5070	0.2858
Median	1.00	4.00	2.00	0.00	61.00	16.70	0.450
Maximum	1.00	8.00	3.00	1.00	126.00	16.70	0.450
Minimum	1.00	1.00	0.003	0.00	10.00	6.30	0.030
Std. Dev.	0.00	1.679	0.71512	0.33316	24.266	2.0317	0.08470
Skewness	—	0.501	1.740	2.250	0.705	1.204	2.162
Kurtosis	—	-0.320	3.140	3.074	0.564	2.162	0.621
Observations	473	473	473	473	473	473	473

Source: Author's Computation (2025) from Eviews23.

Based on Table 1, all observations indicate the presence of sustainability reporting, with a mean score of 1.000 and no variability (standard deviation = 0.000). CEOs, on average, have a tenure of approximately 3.25 years regarding sustainability reporting, with moderate variability (standard deviation = 1.679). The distribution slightly skews right, suggesting longer CEO tenures, with mild kurtosis (-0.320). The average CEO power related to sustainability reporting is low at 0.6539 but with considerable variability (standard deviation = 0.71512), showing a highly right-skewed and leptokurtic distribution (kurtosis = 3.140). CEO gender diversity averages around 0.127, slightly favoring male CEOs, with a right-skewed distribution (skewness = 2.250, kurtosis = 3.074).

Table 2:
Unit Root Test

Variables	Levin, Lin and Chu Test Statistic	Probability	Integration	Remark
SR	-6.701	0.000	I[0]	Stationary
CEOT	-2.623	0.032	I[0]	Stationary
CEOP	-4.778	0.000	I[0]	Stationary
CEOG	-4.491	0.000	I[0]	Stationary
FA	7.599	0.000	I[0]	Stationary
FS	-15.451	0.000	I[0]	Stationary
FLEV	4.653	0.000	I[0]	Stationary

Source: Author's Computation (2025) from Eviews23.

The Levin, Lin, and Chu panel unit root test results (Table 2) show that all variables—SR, CEOT, CEOP, CEOG, FA, FS, and FLEV—are stationary at level. This means the dataset is appropriate for modeling without the risk of spurious regression.

Table 3:
Correlation Analysis for Research Variables

	SR	CEOT	CEOP	CEOG	FA	FS	FLEV
SR	1.000						
CEOT	0.023	1.000					
CEOP	-0.149	-0.442	1.000				
CEOG	0.264	0.010	-0.010	1.000			
FA	0.129	-0.029	0.056	0.064	1.000		
FS	-0.298	0.252	0.116	-0.075	-0.161	1.000	
FLEV	0.193	-0.038	0.086	0.019	-0.184	0.009	1.000

Source: Author's Computation (2025) from Eviews23.

Table 3 shows SR correlates positively with CEOT (r = 0.023), CEOG (r = 0.264), FA (r = 0.129), and FLEV (r = 0.193), but negatively with CEOP (r = -

0.149) and FS (r = -0.298). All inter-correlations are below 0.8, indicating no multicollinearity.

Table 4:
Breusch-Pagan-Godfrey Heteroskedasticity Test

Statistic	Value	Probability
F-statistic	292.9933	0.0000
Obs*R-squared	167.7968	0.0000
Scaled explained SS	352.3965	0.0000

Source: Author's Computation (2025) from Eviews23.

The high F-statistic and corresponding p-values indicate presence of heteroskedasticity in the regression residuals.

Table 5:
Hausman Test for Model Selection

Model	Description	Chi-Sq Stat	df	p-Value	Model to Select
1	SR Panel Model	97.343	6	0.000	Fixed Effects

Source: Author's Computation (2025) from Eviews23.

The Hausman test indicates the Fixed Effects Model (FEM) is appropriate due to a p-value less than 0.05.

Model Estimation
The Pooled OLS, Fixed Effects Model (FEM), and Random Effects Model (REM) were estimated; FEM was selected based on the Hausman test. Table 6 summarizes these results.

Table 6:

Estimation of SR Panel Model (2010–2021)

Variable	Pooled OLS Coef (p)	FEM Coef (p)	REM Coef (p)
Constant	-1.320 (0.474)	3.034 (0.083)	-1.249 (0.372)
CEOT	0.023 (0.647)	0.028 (0.000)	0.023 (0.540)
CEOP	-0.017 (0.182)	0.228 (0.000)	-0.017 (0.080)
CEOG	0.035 (0.004)	0.069 (0.000)	0.035 (0.000)
FA	0.423 (0.139)	-0.089 (0.016)	0.420 (0.055)
FS	-0.188 (0.003)	0.150 (0.011)	-0.187 (0.000)
FLEV	0.431 (0.006)	0.468 (0.026)	0.424 (0.000)
R^2	0.217	0.591	0.213
Adj R^2	0.179	0.530	0.176
F-stat	5.774 (0.000)	9.692 (0.000)	5.657 (0.000)
Durbin-Watson	1.363	2.326	1.369
Observations	132	132	132

Source: Author's Computation (2025).

Pooled OLS showed CEOG, FS, and FLEV as statistically significant predictors of sustainability reporting at the 5% level. FEM showed all variables except FA with significant impacts, with FA negatively related to SR. The FEM model explains 59.1% of SR variance and has no serial correlation (Durbin-Watson = 2.326). REM results are consistent with pooled OLS regarding significance of CEOG, FS, and FLEV but do not find CEOT, CEOP, and FA significant.

Discussion of Findings

CEO Power (CEOP)

The study found a significant positive relationship between CEO power and sustainability reporting (SR), indicating that CEOs with greater influence within manufacturing firms prioritize sustainability reporting initiatives. This aligns with Behbahanina and Golbidi (2020), who found that life cycle positively moderates the relationship between CEO power and sustainability reporting despite CEO power having a negative direct impact. Their results also suggested that international relations negatively affect the relationship between life cycle

and corporate sustainability reporting, but did not significantly moderate the CEO power-sustainability reporting link. Conversely, these findings contradict Afzalur *et al.* (2020), who found CEO power negatively related to sustainability reporting, though stakeholder influence can offset this effect.

CEO Tenure (CEOT)
A significant positive relationship was found between CEO tenure and sustainability reporting, suggesting longer-serving CEOs are more inclined to prioritize sustainability reporting. This contrasts with Long *et al.* (2017), who found an inverse relationship in the U.S. from 2002–2010, where CEOs with shorter tenure were more likely to produce independent, assured sustainability reports following GRI standards. They also found stronger information intermediaries and higher discretionary accruals influenced this negative relationship.

CEO Gender (CEOG)
A significant positive relationship exists between CEO gender diversity and sustainability reporting, implying firms led by female CEOs are more likely to engage in sustainability reporting. This supports Adams and Ferreira (2009), who found female CEOs tend to be more socially and environmentally conscious. However, it contradicts Charness and Gneezy (2015), who argued males are generally more willing to take financial risks, are more confident, and invest more.

Firm Size (FS)
A significant negative relationship was found between firm size and sustainability reporting, indicating larger firms are less likely to prioritize sustainability reporting. This supports Uyagu (2017), who found firm size positively impacts environmental reporting standards among Nigerian oil and gas companies. However, it contradicts Waddock and Graves (1997), who suggested larger firms engage more in sustainability reporting due to greater resources and visibility.

Firm Age (FA)
Firm age positively relates to sustainability reporting, suggesting older firms engage more in sustainability reporting activities. This aligns with Felix and Idowu (2021), who found firm age positively associated with sustainability reporting, and Roberts (1992), who suggested older firms have established systems conducive to sustainability reporting while younger firms focus on short-term financial goals.

Firm Leverage (FLEV)
A significant positive relationship exists between firm leverage and sustainability reporting, indicating firms with higher leverage are more likely to report on sustainability. This finding aligns with Marquis and Qian (2014), who suggested financially constrained firms, may use sustainability reporting to attract investors and mitigate risks.

Conclusion and Recommendations

This study has shed light on the complex interplay between CEO attributes, firm characteristics, and sustainability reporting practices among quoted manufacturing firms in Nigeria. The analysis revealed that CEO power, tenure, and gender diversity are significant drivers of sustainability reporting, underscoring the influential role that top executives play in shaping corporate sustainability agendas. These findings suggest that leadership style and personal attributes of CEOs can materially influence how firms engage with sustainability issues.

Furthermore, firm-specific characteristics such as size, age, and financial leverage were also found to significantly affect sustainability reporting. While firm size demonstrated a negative relationship, both firm age and leverage showed positive associations with reporting practices. These results imply that older firms and those facing financial pressure may be more inclined to disclose sustainability-related information—perhaps as a strategic response to stakeholder expectations or reputational concerns. In contrast, larger firms might deprioritize sustainability disclosure, possibly due to bureaucratic inertia or competing strategic objectives.

Taken together, the study emphasizes the need to consider both internal leadership dynamics and broader organizational factors when evaluating or designing policies to enhance sustainability reporting in the manufacturing sector. Effective sustainability strategies, therefore, require not only structural reforms but also attention to executive leadership, corporate culture, and governance frameworks.

Based on the key findings of this study, several recommendations are offered to improve sustainability reporting practices in the Nigerian manufacturing sector.

First, manufacturing firms should empower their CEOs with clear mandates and adequate resources to champion sustainability initiatives. This could include the

establishment of sustainability-focused committees led by the CEO, as well as granting executive leadership the authority to integrate environmental and social priorities into core business strategies.

Second, to maintain consistency and momentum in sustainability efforts, organizations should ensure continuity in leadership. This may be achieved through succession planning frameworks that prioritize sustainability expertise, thereby enabling smooth transitions and minimizing disruptions in ongoing initiatives.

Third, promoting gender diversity in executive leadership can enhance sustainability outcomes. Firms are encouraged to set internal benchmarks for gender representation in senior roles, implement leadership development programs for women, and cultivate an inclusive culture that supports diverse perspectives on environmental and social issues.

Fourth, government bodies and industry associations should provide targeted support to smaller manufacturing firms, which often lack the resources to adopt comprehensive sustainability reporting frameworks. Simplified reporting templates, training programs, and financial incentives could help such firms overcome barriers to sustainability engagement.

Fifth, older firms should leverage their historical experience and institutional knowledge to strengthen their sustainability strategies. This includes conducting periodic sustainability audits, setting measurable goals, and facilitating internal knowledge-sharing to build organizational capacity around sustainability.

Finally, firms with higher levels of financial leverage should prioritize transparency and accountability in their sustainability disclosures. Strengthening internal control systems, actively engaging with stakeholders, and clearly communicating sustainability commitments can help such firms build investor trust and reduce perceived financial risks.

In summary, fostering effective sustainability reporting in Nigeria’s manufacturing sector requires a balanced approach that integrates leadership empowerment, institutional support, diversity promotion, and strategic alignment of financial and non-financial goals.

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