

CORPORATE GOVERNANCE MECHANISM AND ENVIRONMENTAL DISCLOSURE OF QUOTED FIRMS IN NIGERIA

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Abstract

This study investigated the relationship between Corporate Governance structures and Environmental Accounting Disclosure of Nigerian listed firm using a sample of 118 non-financial firms listed on the Nigerian Stock Exchange (NSE) for 2022 financial year. The study used content analysis and Pearson Correlation to investigate the dimensions of corporate governance as Board Independence and Environmental Accounting Disclosure. The study also adopted firm size and Industry Membership as control variables. The result of the study revealed that Board independence have positive and significant relationship with Environmental Accounting Disclosures of Nigerian listed firms. The study also indicated that firm size and Industry Membership contribute positively to the level of Environmental Accounting Disclosures of Nigerian listed firms. The study therefore, recommends that firms that desire to enhance the level of their Environmental Accounting Disclosure should ensure that adequate Board Members are in place; and these Board Members should be independent of management.

Keywords: Board Independence, Corporate Governance, Environmental Disclosures, Listed firms, Nigeria.

Introduction

The changing information needs of stakeholders and the pursuit of broader profit horizons have compelled many corporations to address social, ecological, and humanitarian concerns (Ntim, 2016). However, the activities of these corporations often have adverse effects on societal and environmental well-being, prompting increased demands for enhanced information disclosure in line with global best practices (Ndlovu & Dzomira, 2021). According to Oladimeji and Folayan (2018), while industrialization and business

expansion—driven by improved product quality and innovation—have contributed significantly to Nigeria's economic development, these benefits are not without associated costs. In particular, the manufacturing sector has recently played a critical role in the Nigerian economy.

Nonetheless, this redefined growth has come with a societal cost, as hazardous by-products are increasingly introduced into the ecological and social environment. Therefore, proactive measures must be taken to preserve the environment while simultaneously supporting the growth of the manufacturing sector in alignment with global sustainability standards.

Environmental accounting disclosure in Nigeria remains a voluntary component of financial reporting among listed firms, creating a regulatory gap that allows many companies to avoid disclosing environment-related information. This loophole is frequently exploited under the guise of compliance with existing laws. Multinational companies operating in Nigeria, while affiliated with parent firms and stock exchanges in developed countries, are often legally obligated by those jurisdictions to prepare sustainability reports that encompass economic, social, and environmental performance within a given period. However, in practice, the quality of environmental disclosures by these firms in Nigeria remains substandard, with many reports yielding poor outcomes (Alok, Nikhil & Bhagaban, 2018). This is evident in the persistent environmental abuses, some of which involve these multinational corporations, casting doubt on the effectiveness and integrity of their reporting practices. Although some multinationals do produce sustainability reports and disclose environmental data, questions remain regarding the extent to which they comply with the standards outlined in environmental reporting indices. Therefore, there is a critical need to appraise the level of compliance among multinational firms in Nigeria—particularly those whose operations significantly impact the ecological environment—to ensure transparency and accountability in environmental stewardship.

Corporate governance, according to Ghazali (2010), refers to a panel of individuals elected to represent shareholders, with the primary responsibility of overseeing management on their behalf. In every business organization, the effectiveness of corporate governance lies in ensuring that managers are transparent and accountable, thereby gaining the trust of shareholders. This trust is vital for the smooth functioning of the organization and for achieving sustainable performance. A strong corporate governance framework significantly influences the confidence of financial investors, as it provides assurance of managerial integrity and accountability. Herda, Taylor, and Winterbotham (2012) further emphasize that corporate governance encompasses the relationships and responsibilities among an organization's stakeholders, along with the laws, policies, practices, and standards that shape its direction and control. Ghazali (2010) also asserts that corporate governance is a system established by shareholders to enhance managerial efficiency and deliver maximum value. Empirical studies across various countries—including Canada, the

United Kingdom, Singapore, South Africa, and Nigeria—have utilized variables such as board size, board independence, board composition, CEO duality, board ownership, and audit committee as proxies for measuring corporate governance effectiveness (Bakar, Ghazali, & Ahmad, 2019; Mudiyansele & Swarnapali, 2018; Mahmood, Kouser, Ali, Ahmad, & Salman, 2018; Adeniyi & Fadipe, 2018; Alotaibi et al., 2019). Sar (2018) added that corporate governance plays a crucial role in balancing the interests of shareholders and other stakeholders, including customers, suppliers, and communities. In addition, Saltaji (2013) linked corporate governance to corporate sustainability and performance, while Buallay and Al-Ajmi (2019) highlighted that the effective implementation of a well-crafted corporate governance policy is critical to business success.

The structure, responsibilities, and powers of a board of directors are typically defined by a company's bylaws, which outline key elements such as the number of board members, the method of their election, and the frequency of meetings (Okudo & Amahalu, 2021). There is no universally fixed number or composition for a board; rather, it varies depending on the nature of the organization, the industry it operates in, and the preferences of its shareholders. It is generally accepted that a board should reflect the interests of both shareholders and management, and it is often recommended that the board include both internal and external directors. Internal directors are those involved in the daily operations of the company and represent the interests of shareholders, officers, and employees, while external directors bring independent perspectives and represent the interests of those outside the organization (Amahalu & Ezechukwu, 2020). Prior research has drawn on stakeholder and legitimacy theories to explain empirical findings (Adams, 2010; Manetti & Toccafondi, 2012; Shamil, Shaikh, Ho, & Krishnan, 2014; Chiu & Wang, 2015), positing that firms engage in environmental disclosure to gain legitimacy and meet stakeholder expectations. Supporting this, Haniffa and Cooke (2005) observed that boards facilitate stakeholder engagement by promoting broader corporate disclosures, including environmental reporting. However, the majority of studies on environmental reporting have focused on developed economies, while research in developing countries like Nigeria remains limited. In these contexts, existing studies have predominantly examined the influence of environmental reporting on profitability, the extent and determinants of disclosures, and international disclosure comparisons (Boiral & Henri, 2017; Jian, Jaaffar, Ooi, & Amran, 2017; García-Sánchez, Suarez-Fernandez, & Martínez-Ferrero, 2019), with relatively few addressing the quality of environmental reporting (Mion & Aduai, 2020; Moses et al., 2020).

Nigeria was selected for this study due to its status as the second largest capital market in Sub-Saharan Africa (International Monetary Fund, 2016) and as a middle-income emerging economy (The World Bank, 2012). Nigerian firms are increasingly engaging in environmental reporting, driven by global competition and the rising importance of sustainability disclosures. Over the years, several corporate governance frameworks and accounting regulations have been introduced in Nigeria to enhance corporate reporting,

including environmental disclosures. The 2011 Code of Corporate Governance, developed by the Nigerian Securities and Exchange Commission (SEC), was designed to regulate the disclosure practices of all listed firms. Additionally, the Central Bank of Nigeria (CBN) issued the Sustainable Banking Principles in 2011, mandating financial institutions to disclose relevant environmental information. The Financial Reporting Council of Nigeria (FRCN) Act of 2011 further strengthened corporate governance by establishing reporting and accounting standards for all corporate entities. These regulatory frameworks collectively address key governance elements such as board composition, the separation of the roles of Chairman and Chief Executive Officer (CEO), the appointment of directors and non-executive directors, the formation of audit committees, and the determination of director remuneration.

Corporate scandals such as those involving Enron, WorldCom, Tyco, and Global Crossing have severely undermined investor confidence, making it difficult for companies to attract equity capital (Agrawal, 2015). These scandals have highlighted the failure of boards and their committees to exercise effective oversight over management (Bedard & Gendron, 2020). The financial manipulation by Enron, for instance, through off-balance-sheet financing, exposed the board's lack of independence and requisite qualifications to detect and prevent financial misreporting (Deakin & Konzelmann, 2014). As Bergstresser and Philippon (2016) note, strong corporate governance is essential to restore market confidence and attract long-term international investments. Meanwhile, the global economy is confronted with pressing environmental and social challenges—such as climate change, pollution, resource depletion, and poverty—that have prompted calls for a new accounting system that recognizes the full social and environmental implications of business operations.

Despite corporate governance's critical role in ensuring transparency and accountability, many firms' reporting frameworks fail to reflect performance in areas of environmental and social sustainability (Alotaibi et al., 2019). Financial accounting alone cannot capture the full spectrum of an organization's impacts, particularly externalities and resource scarcities that do not appear in market prices. Consequently, sustainability reporting has become imperative to present a more holistic picture of firm performance. However, previous studies examining the relationship between corporate governance and environmental disclosure have produced inconsistent results— some showing positive (Okudo & Ndubuisi, 2021; Uddin et al., 2021; Alsurayyi & Alsughayer, 2021), others negative (Otero-Gonzalez et al., 2021; Tiron-Tudor et al., 2020), and some showing no relationship at all (Dunay et al., 2021; Kouaib et al., 2020). These mixed findings highlight a gap in the literature, which this study aims to address.

The primary purpose of this study therefore, is to investigate the influence Board Independence on Environmental Accounting Disclosure of Nigerian listed firms with firm size and industry membership as the control variables of the study.

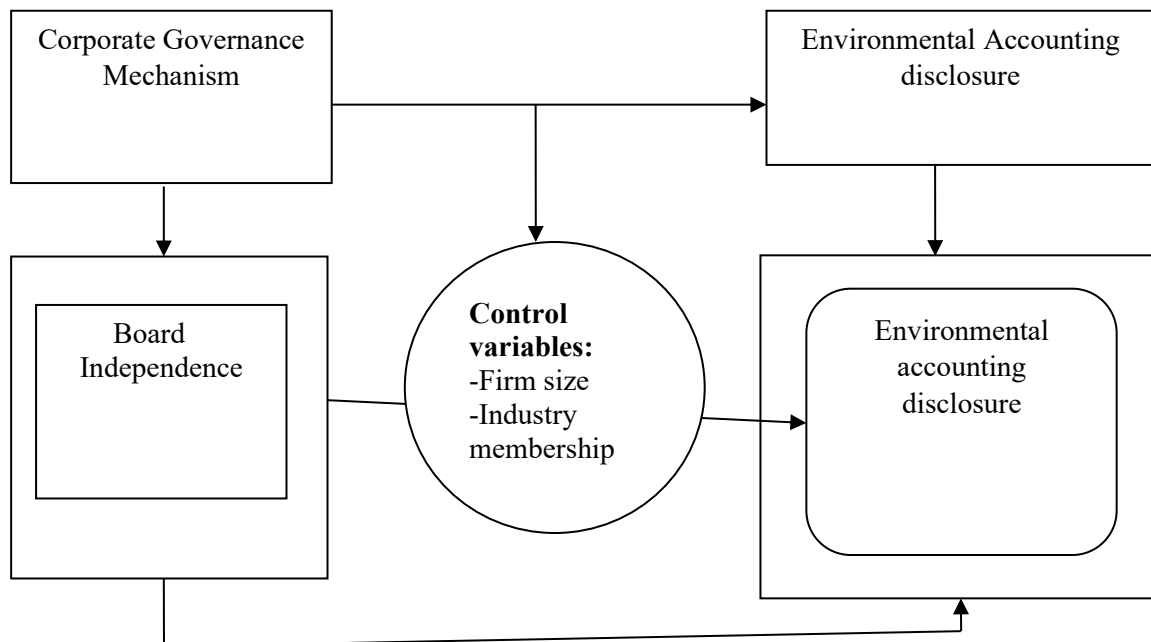


Fig.1 Conceptual Framework

Research Question

To what extent does Board Independence affect Environmental Accounting Disclosure of Nigerian listed firms?

Hypotheses

HO₁: Board independence has no significant effect on Environmental Accounting Disclosure of Nigerian listed firms.

Literature Review

Corporate governance characteristics

Corporate governance is simply defined as the acceptance by management of the alienable rights of shareholders as the true owners of the corporation and their role as the trustees on behalf of the shareholders (Dombin, 2013). A lot of scholars however attribute the considerable interest in corporate governance practices in modern corporations to the high-profile collapse of a number of large firms in the US such as the Enron Corporation. Dar, Naseem, Rehman and Nazi (2011) opines that corporate governance serves two major indispensable purpose which are to enhance the performance of corporations by establishing and maintaining a corporate culture that motivates directors, managers and entrepreneurs to maximize the company's operational efficiency thereby ensuring returns on investment and long-term productivity and it ensures the conformance of corporations to laws, rules and practices which provide a mechanism to monitor directors' and

managers' behavior through corporate accountability that in turn safeguards the investor interest.

Board Independence

A board is described as “independent” when members of the Board are independent of Management; and free from any business dealings or other relationship that is likely to materially interfere with the performance of the duties of the Board members (Akinsulire, 2011). This would engender better understanding and capability to handle current and emerging issues of business. The Board would also be in a better position to review and evaluate the performance of management and thereby carryout independent judgment without any fear (Akinsulire, 2011). To further illuminate the above point, Fama & Jessen (1983) posit that Board independence is considered to be more efficient if there are more non-executive directors in the board. This is because the oversight roles carried out by such members are likely to comply more with the extant regulations, laws or standards. Mahmood, (2018) also re-echoed this point when he argued that the availability of a higher number of independent directors in the board would increase the ability of the board to effectively control and monitor the organization's management, because they are neither related to, by family, to the organization nor to the executive managers. Thus, effective control over the actions and the decisions of senior management would be effective. Board independence also leads to transparency in supply of information to external parties, and therefore increases the level of environmental accounting disclosure (Mahmood, 2018). Quite a number of studies have indicated that the Board's Independence is critical to the determination of the level of environmental Accounting Disclosures among firms (Htay, 2012; Salehuddin & Fadzil, 2003) etc. This, according to them is based on the fact that independent directors are likely to influence other directors to voluntarily disclose more Environmental Accounting Information to the stakeholders. However, the empirical study conducted by Emma (2010) documented that positive association between board independence and voluntary disclosure only occurs in countries with high investor protection rights. Hence, the hypothesis of this study:

Ho₁: Board independence has no significant effect on Environmental Accounting Disclosure of Nigerian listed firms.

Environmental Accounting Disclosure

Environmental accounting according to Sultana (2016), refers to the modification of the system of national accounts to incorporate the use or depletion of natural resources. Gray et al (2017) defined environmental accounting “as the process of communicating the social and environmental effects of organizations' economic actions to particular interest groups within society and to society at large. Beredugo and Mefor (2022) further notes that Environmental accounting “is an inclusive field of accounting”. This is because environmental accounting reports for internal use; and also generates environmental

information that would assist management in making decisions on pricing, capital budgeting, overhead, etc. (Musa, et al; 2015).

Environmental accounting disclosure according to Darwish (2019) can therefore, be defined as “a set of information items related to the performance and activities of the environmental management of a firm on its past, present, and futures financial implications. The business entities are today subjected to intense pressure by public spirited individuals and environmentalists to make available enough information about the consequences of their activities or operations on the environment (Uwalomwa, 2021). As a result, corporate environmental disclosure has become a topical issue for both national and international discourse. Musa, et al (2015) argued that “the current position of environmental accounting disclosure might best be described as confusing and full of ambiguity”. This according to them is owing to the fact that the regulatory and standard setters have not yet prioritize the disclosure of environmental accounting.

The basic essence of environmental accounting disclosure is to provide environmental information on corporate activities. This information is expected to contain the extent to which the organization is involved in the production and preservation of the environment (Shearer, 2022).

Furthermore, this report also shows the organization’s effort towards the environment and the basic strategies put in place to source for alternative measures that would be less harmful to the environment. To assist companies to effectively disclose on their environmental activities, many interactive organizations have issued guidelines and principles, for example, the CERES principles, laid down by the Coalition for Environmentally Responsible Economics in 1992; the PERI Guidelines, laid down by the Public Environmental Reporting Institute in 1993, the ISO 14000 Standard established by the International Organization for standardization in 1996; and the sustainability reporting guidelines established by the Global Reporting Initiatives in 1999, and reviewed in 2002 and 2006; and the American Petroleum Institute (API, 2005) (Ironkwe &Ordu,2016).

Where are these Social and Environmental Accounting Information to be disclosed? They are to be disclosed in the Annual Reports, Corporate Governance Section, Notes to the Account, financial statements, Directors Report, Stand-Alone Report, Environmental Report, Social Report, Sustainability Report, Health and Safety Report, Internet Web Pages, Company Brochures, and Advertisements” (Musa, 2019). Environmental accounting disclosure may be Mandatory or Voluntarily (Musa, 2019). Mandatory Disclosures are that information appearing in the reports of companies in accordance with certain regulations imposed upon them by government or other authorized and recognized bodies. This enables companies to disclose certain degree of information; and a basic standard for disclosing that information; so that comparisons among different company’s reports would be possible. Some of the countries that operate under mandatory requirements are:

- a. Australia (Financial Service Reforms Act (FSRA) 2010);
- b. France (The Grenelle Act of 2009);
- c. U.K. (Revised Companies Act, 2006).
- d. South Africa (Johannesburg Stock Exchange Act, 2011), etc. (Uwalomwa, 2011).

Voluntary Disclosure on the other hand, are disclosures carried out by the companies to meet up the request of their stakeholders without any Legislative or Legal requirements. Environmental Accounting Disclosures in most developing countries, Nigeria inclusive, are voluntary owing to non-availability of Standards to regulate such disclosures. Most firms merely disclose such information for the purpose of complying with industry practices, pressure from environmental activists and advocates, to maintain their relationship with parent companies abroad, ownership structure, size and level of profitability (Musa, 2015). Countries that fall under this category are Bangladesh, Nigeria, etc (Sultana, 2016). Shiela etal, 2012 argued that the choice to disclose or not to disclose more information on the environment depends to a large extent on a number of factors which includes corporate governance and board characteristics.

Environmental Disclosure in Nigeria:

According to Oba and Fodio (2012), the idea of corporate environmental accounting disclosure was started in Nigeria in the early 1990's; and since then, it has gained wide acceptability as an avenue for communicating and expressing a company's efforts towards improving corporate environmental actions to the various stakeholders (ACCA, 2003). Adekaja and Ekpenyong (2009) stated that the apparent weakness in the regulatory framework, lack of environmental awareness owing to poor advocacy, inadequate resources for the enforcement of legislative requirements, and poor adherence to environmental accounting disclosure requirements are some of the identified factors responsible for the low level of corporate environmental accounting disclosures in Nigeria. Iyoha (2010) also noted that the main preoccupation of organizations operating in Nigeria is profit maximization and high dividend payment. As a result, little attention is paid to environmental accounting disclosure issues. Howbeit, it is worthy of note that Nigeria has been able to establish the Federal Environmental Protection Agency (FEPA, 1992) as amended, and the Department of Petroleum Resources (DPR) Environmental Guidelines and Standards for the Petroleum Industry (1991). These agencies ensure that industrial activities of companies do not impact on the environment negatively. But despite the establishment of these bodies, there is continual degradation of the environment, particularly in the Niger Delta Region of Nigeria with impurity. The Nigerian Government therefore need to go beyond the establishment of these bodies to enforcement of the environmental laws (Iyoha, 2010). Also, the various Accounting bodies should develop accounting standards that would specify how environmental actions of companies would be reported. One is optimistic that if this is achieved, Nigeria's environmental accounting disclosure ratings would be greatly enhanced.

Impact of Corporate governance on Environmental sustainability reporting

Environmental sustainability reporting is a crucial mechanism for promoting transparency by communicating an organization's commitment to preserving the natural environment to its stakeholders (Comyns, 2016; Perrault & Clark, 2016). This form of reporting not only enhances economic performance and competitive advantage but also strengthens organizational legitimacy and reputation (De Villiers, Naiker & Staden, 2011). The Global Reporting Initiative (GRI, 2011) defines environmental sustainability reporting as a subset of sustainability reporting focused on the impact of organizations on natural systems including ecosystems, air, water, and land. GRI identifies twelve specific environmental performance indicators, ranging from energy and water use to emissions, waste management, and supplier environmental assessment.

Empirical studies have explored the influence of corporate governance on environmental sustainability reporting across various contexts. Ofoegbu and Megbuluba (2016) and others found that firm size positively affects the quality of environmental disclosure. However, the role of board expertise in this area remains inconclusive; for example, Umukoro et al. (2019) and Aliyu (2018) found no significant relationship between board expertise and environmental sustainability reporting, though Aliyu noted that board independence positively influences such reporting. Similarly, Otuya, Akporien, and Ofeimum (2019) observed a positive but insignificant relationship between board activities and sustainability reporting in Nigeria's oil and gas sector. These findings suggest a complex dynamic where some governance attributes impact reporting quality while others do not.

Several studies highlight the significance of specific governance characteristics in shaping environmental disclosure practices. Rao, Tilt, and Lester (2012) showed that the presence of independent and female directors correlates with environmental reporting in Pakistani firms. Naseer and Rashid (2018) also linked independent directors, board size, CEO duality, and ownership structures with reporting quality. Contrastingly, Masud, Nurunnabi, and Bae (2018) found no association between family ownership and environmental sustainability performance, while Villier, Naiker, and Staden (2011) identified a positive relationship between board independence and environmental performance but no effect from CEO duality. Haladu and Bt Salim (2016) further complicated the narrative by reporting a negative relationship between board members' environmental expertise and disclosure, suggesting contextual factors may moderate these effects.

Additional research confirms the varied influence of board characteristics on environmental reporting. King' Ori et al. (2019) found board independence has a positive but statistically insignificant effect on sustainability disclosures in Kenya, whereas Odoemelan and Okafor (2018) reported board independence and environmental committees significantly enhance environmental disclosures in Nigerian firms, but board size does not. In Italy, Rubino and Napoli (2020) found that larger board size positively

impacts corporate environmental performance. Taken together, these studies underscore that while corporate governance mechanisms—such as board independence, size, and ownership—can affect environmental sustainability reporting, their impacts differ by regional and organizational context, reflecting the multifaceted nature of governance and environmental accountability.

Control Variable

Firm size is adopted as the control variable for this study. A company that is very visible to the public has more likelihood to disclose information so as to enhance corporate image and acceptability. The big firms are also more concerned with their corporate environmental reporting since they are more visible to external stakeholders who always demand for an improved environmental performance (Uwalomwa,2021). Firm size is measured as the natural logarithm of firm's total Assets because of it's widely spread value (Oba & Fodio, 2022). Mahmood, et al, (2018), Cornier & Magnan (2015); and Romlah etal(2022), all demonstrated that large quoted firms tend to disclose more voluntary information (Sharifah,2020).

Dummy Variable

This study also adopted Industry Membership as the Dummy Variable. The environmentally sensitive firms are assigned (1) while non-sensitive ones are assigned (0). The Dummy Variable enables us to identify the environmentally sensitive firms from the non-environmentally sensitive ones.

Theoretical Framework

Stakeholder Theory

The Stakeholder Theory, a foundational framework in environmental, social, and sustainability management research, emphasizes the critical role of individuals and groups—both formal and informal—who are affected by or can influence a firm's activities related to trade and value creation (Kaur & Lodhia, 2006; Freeman, 1984). These stakeholders depend on the firm for their own goals and survival, prompting organizations to consider their impacts and responses, particularly in sustainability reporting practices. Stakeholder engagement is characterized as a trust-based collaboration between diverse parties with differing objectives that can only be achieved collectively, fostering transparency, accountability, and effective communication in sustainability efforts (Horisch, Freeman & Schaltegger, 2014; Kaur & Lodhia, 2016). As a key external component, stakeholders can positively or negatively affect an organization, and the theory underscores the importance of meeting stakeholders' needs while managing their often-conflicting interests to guide organizational actions (Beasley & Salterio, 2021; Ngatia, 2014).

Resource Dependency Theory (RDT)

Resource Dependency Theory, developed by Pfeffer and Salancik (1978) in their seminal work *The External Control of Organizations: A Resource Dependence Perspective*, asserts that organizations rely on resources sourced from their external environment, which in turn shapes their behavior. Directors leverage their skills and experience to connect with key external stakeholders, including social groups, suppliers, customers, and policymakers (Inua & Emeni, 2019). The theory identifies five strategic approaches organizations can adopt to reduce dependence on external resources: mergers/vertical integration, joint ventures and interorganizational relationships, boards of directors, political action, and executive succession (Hillman, Withers & Collins, 2009). Of particular relevance to this study is the role of board size in firm performance. Viewing the firm as an open system dependent on environmental resources (Whijetlake, Ekanayake & Perera, 2015), the theory cautions that excessive reliance on external resources may hinder operations and diminish organizational autonomy, leading to future uncertainty (Mudiyanselage et al., 2018; Rivas, 2012). The board of directors serves as a critical resource to mitigate such risks, acting as a vital link in corporate governance that ensures sustainable access to essential resources—man, material, machine, and money—encompassing both financial and non-financial assets (Rivas, 2012; Whijetlake et al., 2015).

Empirical Review

The following are some of the empirical works reviewed in respect of this study:

Kijkasiwat et al. (2022) examined the relationship between corporate governance and firm performance, highlighting the mediating role of financial leverage using panel data from 2,568 firms spanning 2002 to 2017. Employing a two-step dynamic panel approach and the generalized method of moments (GMM), their findings revealed that financial leverage mediates the governance-performance link in both developed and emerging economies. Notably, excessive leverage negatively impacts firm performance, underscoring the board's responsibility to maintain low leverage levels to enhance outcomes. The study further observed that firms in emerging markets with larger boards tend to use lower leverage, whereas in developed markets, smaller boards favor low leverage to improve performance. Complementing this, Tanko and Kolawole (2020) investigated corporate governance and firm performance in Nigeria, utilizing metrics such as return on equity, net profit margin, sales growth, dividend yield, and stock prices to assess performance, and board independence, size, audit independence, ownership, and governance practices to measure governance. They found a strong positive relationship between board size and firm performance, with boards averaging 30% outsider membership—indicating relative board independence—but revealing a weak correlation overall. Their study concluded that increased outsider representation correlates with better return on equity. Additionally, performance declines when the CEO also serves as board chairman, leading to the recommendation that firms, particularly medium-sized ones, should maintain boards of 10

to 15 members with a majority of outsiders and ensure separation of the CEO and chairman roles to optimize firm performance.

Olayinka, Alex, and Omololu (2021) examined the relationship between corporate governance and the quality of sustainability reporting among 120 firms listed on the Nigerian Stock Exchange, employing board governance variables—board size, board independence, board gender diversity, and board expertise—and audit committee attributes, including audit committee size, audit expertise, and frequency of audit meetings. Sustainability reporting quality was measured on a scale from 0 to 4, with the highest score assigned to reports independently assured by audit firms, and the lowest indicating no sustainability reporting. Using ordered logistic regression, their findings revealed that several board governance factors (board size, gender diversity, expertise) and audit committee characteristics (size, expertise, meetings) significantly enhance sustainability reporting quality, with external assurance further strengthening this relationship. Similarly, Hasan, Hussainey, and Aly (2022) investigated determinants of sustainability reporting decisions among 138 firms listed on the Pakistan Stock Exchange from 2009 to 2018, utilizing logistic regression analysis. Their results indicate that gender-diverse boards, larger audit committees, and greater institutional ownership positively influence the likelihood of sustainability reporting, whereas concentrated ownership, managerial ownership, foreign ownership, and audit committee independence have a negative effect. This pioneering study offers critical insights for Pakistani policymakers and regulators in emerging markets, highlighting governance attributes that warrant regulatory attention to promote sustainable development within their corporate sectors.

Rabi (2019) conducted a research on Board Characteristics and Environmental Disclosure. The study focused on disclosures in the industrial companies listed on the Amman Stock Exchange in Jordan between 2014-2017. A total of 63 industrial companies were studied using three variables: Board Size, Board Independence, and Board Ownership. The methodology adopted was panel data. The study found a positive relationship between board size and board ownership with environmental disclosure.

Uwalonwa & Uwaigbe (2012) within the Nigerian context examined how CSR enhances performance of listed firms. This study is an empirical investigation of the relationship between firms' corporate financial performance and the level of corporate social responsibility disclosures among selected firms in Nigeria. It also looked at the relationship between firms' financial leverage and the level of corporate social responsibility disclosures among selected firms. While the annual reports for the period 2008 was utilized as the main source of data collection for the sampled 41 listed firms, the multiple regression analysis was employed as a statistical technique for analysing the data collected. The paper revealed that firms' corporate financial performance and the size of audit firm have a significant positive relationship with the level of corporate social responsibility disclosures among selected firms. In addition, it was observed that a significant negative relationship existed between firms' financial leverage and the level of corporate social responsibility

disclosures. The study recommended that government, as part of their responsibility, should put in place policies that will create a good business environment for firms operating in the country.

Karambu & Jospheh (2016), within the Kenya context, study was aimed at assessing the effect of corporate environmental disclosure on financial performance of listed firms at the Nairobi Securities Exchange, Kenya. This study made use of longitudinal secondary data from the annual reports and financial statements of listed companies at the Nairobi Securities Exchange. Content analysis of sampled listed companies' annual reports was undertaken to examine environmental disclosure practices. A checklist of environmental disclosure items and categories was developed and environmental disclosure indices computed. Casual research design was employed to determine the cause-effect relationship between corporate environmental Disclosure and financial performance. Target population of the study was 61 listed companies. Purposive sampling was employed in selecting firms that have been listed for entire period of study and whose annual reports are available at the Nairobi Securities Exchange. This resulted into a sample size of 32 listed companies. Coefficient of Skewness was used to test the normality of data. Homoscedasticity and auto-correlation assumptions of the regression model were tested using scatter plots and Durbin Watson test. Linear regression model was used to determine the casual relationship between environmental disclosure and financial performance. The overall model was found to be significant with $F=8.514$, $P\text{-value} < 0.05$. The predictor variable explained 47.7% of changes in financial performance. Firm size and leverage have no effect on environmental disclosure. Findings reveal that environmental disclosure with $P\text{-value} < 0.05$ has a positive significant effect in the mean financial performance. The study recommends that firms should engage in environmental disclosure because it leads to increased financial performance.

Acti, Lyndon and Bingilar (2013) within the Nigerian context examined the impact of environmental cost and disclosure on the performance of oil companies in Nigeria. The study examined the impact of environmental cost on corporate performance in oil companies in the Niger Delta States of Nigeria. The field survey methodology was utilized involving a selected sample of twelve oil companies. The multiple regression analysis was explored to test the hypothesis. An investigation was undertaken into the possible relationship between corporate performance and three selected indicators of sustainable business practices: Community Development Cost (CDC), Waste Management Cost (WMC) and Employee Health and Safety Cost (EHSC). The study revealed that sustainable business practices and corporate performance is significantly related. And sustainability may be a possible tool for corporate conflict resolution as evidenced in the reduction of fines, penalties and compensations paid to host communities of oil companies. Therefore, the researchers recommended that the management of oil companies in the Niger Delta States of Nigeria develop a well-articulated environmental costing system in order to

guarantee a conflict free corporate atmosphere needed by managers and workers for maximum productivity and eventually improve corporate performance.

Malarvizhi and Ranjanni (2016) conducted a research to examine whether there is any significant relationship between Corporate Environmental Disclosure (CED) and firm performance of selected companies listed in Bombay Stock Exchange (BSE), India. They use content analysis methodology by developing an environmental disclosure index (EDI) and formulating hypotheses to test the association between firm performance and level of environmental disclosure. Primary data was collected using questionnaire instrument. A regression model with EDI as dependent variable and return on capital employed (ROCE), return on assets (ROA), net profit margin (NPM) and earnings per share (EPS) as independent variable is used to analyze data for this research. Results show there is no significant relationship between the level of environmental disclosure and firm performance. They recommended that corporate organizations should be educated on the benefits of better environmental performance and encouraged to comply with the requirements for long-term survival. As part of environmental governance government should include education on ethical environmental disclosure at societal level, school level. Ofoegbu, Akwu and Oliver (2018) evaluated the influence of Corporate Board Characteristics on environmental disclosure quantity of listed firms in two leading emerging economies -South Africa and Nigeria, which practice integrated reporting framework and traditional reporting framework respectively. The methodology of the study was descriptive, regression model and multivariate analysis. The study found that board characteristics are significantly associated with environmental disclosure.

Akbas (2016) investigated the relationship between Selected Board Characteristics and the extent of environmental disclosure in annual reports of Turkish companies, using a sample of 62 non-financial firms listed on BIST-100 index at the end of 2011. The methodology adopted was content analysis. Four board characteristics-board size, board independence, board gender diversity and Audit Committee Independence were studied. The result showed that only board size has a statistically significant and positive relationship with the extent of environmental disclosures.

Trireksani and Djajaddin-kerta (2016) investigated the relationship between Corporate Governance variables and the extent of environmental disclosure. The study focused only on mining companies listed in Indonesian Stock Exchange, and employed content analysis of the Annual reports and documented a significant positive association between the board size and extent of environmental disclosure.

Methodology

This study evaluates the relationship between two Board characteristics and Environmental Accounting Disclosures of Nigerian firms. The study concentrates on firms listed on the Nigerian stock Exchange in the financial year 2022. Note that owing to the limited effect of financial firms activities on the environment, all financial companies,

including Banks and insurance companies are excluded. After all elimination, the final sample consists of (118 firms) across 10 sectors in line with Nigerian Stock Exchange classifications. The year 2022 was chosen because it marked the year in recent times with the highest number of listed companies, particularly, when compared to 2023 and 2024. Details are as shown below:

Table 1: Distribution of Firms By Sector

S/N	Sector	No. Of firms	Percentage
1.	Agriculture (crops/Livestock)	5	4.24
2.	Conglomerate	6	5.08
3.	Construction/real estate	7	5.93
4.	Consumer goods	23	19.49
5.	Health care	11	9.32
6.	ICT	9	7.63
7.	Industrial goods	17	14.41
8.	Natural resources	4	3.39
9.	Oil/Gas	13	11.02
10.	Services	23	19.49
	Total	118	100

Source: Extracted from Nigerian Stock Exchange (NSE) Listed companies/firms for 2025.

Table 2: Summary of Independent and control variables of the study.

Variables	Code/ Abbr.	Measurements/ Description
Board independence	BIND	The percentage of Independent Directors to the total No. of Directors on the Board of a firm.
Control variables	F/S	The natural logarithm of total Assets at the end of the financial year 2022.
Industry membership	I/M	Dummy variables: which is equal to '1' if the firm operates in an environment sensitive industry and '0' if it does not.

Sources: Researcher's Desk table 2025.

Model Specification:

$$EAD = a_0 + b_1 BIND + b_2 FS + b_3 IM + e_1$$

Where:

EAD = Environmental Accounting Disclosure.

a_0 = Intercept

BIND = Board independence

F/S = Firm Size

IM = Industry Membership

e_1 = Error term.

Results and Discussions

Descriptive Statistics.

The result of the Descriptive statistics is as shown on table (3) below:

Table (3)(Panel A):Dependent, Independent and control variables of the Study.

Variables	Obs	Mean	Median	Standard deviation	Min	Max	Skew.	Kurt.
EAD	118	863.262	400.600	1113.893	0.000	4655.000	2.203	4.866
BIND	118	0.202	0.000	0.182	0.000	0.680	1.309	0.413
F/S	118	30.842	30.856	1.483	18.926	25.678	0.213	-0.708

Table 4. Panel (B) - Dummy Variable

Industry Membership	Frequency	Valid Percentage
Sensitivity (1)	67	56.8
Non-sensitivity (0)	51	43.2
Total	118	100

Correlation Matrix

Table 5. Pearson Correlation Matrix

Variables	EAD	BSIZ	BIND	F/S	IM		
EAD	1						
BIND	0.510	0.410	1				
F/S	0.645*	0.632*	-0.082	1			
I/M	0.328	-0.042	-0.341	0.048	1		

*Correlation is significant at 0.01 Level (2-Tailed)

Result of ordinary least square regression (OLR) analysis testing the relationship between “Board characteristics” and “environmental Disclosure”

Table 6.

Variable	Coefficient	Standard error	t-statistics	p-value
Intercept	-6321.426	2366.226	-4.65	0.001
BIND	128.32961	1302.013	0.03	0.008
F/S	302.1543	84.66443	2.86	0.009
I/M	649.7881	335.8783	3.48	0.039
R-Squared	0.5015			
Adjusted R-squared	0.4429			
F-statistics	6.82			
P-value of F – Statistics	0.0001			

Discussion of Findings

From table (6) above, the F-statistics is 6.82, while P-value = 0.001. This implies that the model of the study is statistically significant. The adjusted R-squared (0.4429) shows that the independent and the control variables explain (44.29%) of the variability in Environmental Accounting Disclosure. The result of the tested hypothesis (H₁) indicates a positive and significant relationship between Board independence and Environmental Accounting Disclosure. This can be seen from the coefficient of the Variable (BIND) = 128.33, while the P-value = 0.008. Thus hypothesis (H₁) is rejected. A rejection of the Null hypotheses means an acceptance of the Alternate hypothesis. This position is in tandem with the studies conducted by Aliyu (2018), Oba and Fodio (2022), post Rahman and MCquillien (2024). Further, the result also indicates that the control variables, Firm Size (FS) and Industry Membership (I/M) both have positive relationships with Environmental Accounting Disclosure. This is based on the fact that the coefficient of firm Size on Table (6) is (302.2), while that of industry membership is (649.8). Then P-value is 0.009 and 0.039 respectively. This position is in agreement with previous studies of Wang, et al (2022), Akbas (2014), Cornier and Magnan (2023).

Conclusion

In the light of the foregoing discussions, it is indeed apparent, that the issue of Environmental Accounting Disclosure and the factors that drive it have today become issues of global concern. Hence, this study investigated the relationship between corporate governance structures and Environmental Accounting Disclosure of Nigerian listed firms. The variable of study was Board independence with control variables – firm size and industry membership. The findings of the study indicated a positive and significant relationship between Board independence, the control variables and Environmental Accounting Disclosure. This implies that firms with large Board size that are independent of management team are likely to disclose more Environmental Accounting Information to its shareholders than the firms with few board members that are highly dependent on management. This position is consistent with the earlier studies conducted by Mahmud, et al (1994) and Rabi (2019).

Recommendations

The study therefore makes the following recommendations:

1. Firms/companies that desire to improve their Environmental Accounting Disclosure level should take a critical review of its Board size and Board independence. Where the board size is less than required it should be reviewed upwards so that they can perform optimally.
2. Board Members should be independent so that they would be in a better position to pressure management to disclose sufficient Environmental Accounting Information.

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