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FOR INQUIRY, CONTACT

Dr. A.U. Farouk

Department of Accounting and Finance,

Federal University Gusau, Zamfara State.

elfarouk105@gmail.com

+2348069393824

FOR MORE INFORMATION, CONTACT

The Editor-in-Chief on +2348067766435

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DO AUDIT COMMITTEE AND BOARD ATTRIBUTES INFLUENCE ENVIRONMENTAL DISCLOSURE: AN EMPIRICAL INVESTIGATION OF LISTED FIRMS IN NIGERIA

Haruna Muhammed Musa

ABU Business School

Ahmadu Bello University, Zaria, Nigeria

(hmmuhammed@abu.edu.org/ harunam.muhammed@gmail.com)

ORCID: <https://orcid.org/0000-0003-0676-8638>

+2349020044444, +2348036595777

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Abstract

Corporate environmental practices have faced intense stakeholder scrutiny due to severe ecological concerns affecting local communities and global stakeholders. Using correlational design, this study investigates how audit committee and board of directors' attributes impact on environmental disclosure among the Nigerian listed firms. A dataset of 95 listed Nigerian companies across diverse sectors was analyzed using regression analysis for the period of 2012-2022. Fixed effect regression results indicates that audit committee independence and board of directors' nationality positively influence the environmental disclosure of the Nigerian listed firms. On the contrary, frequency of audit committee meetings has significant negative effect on environmental disclosure. This study's outcome offer valuable insight for Nigerian regulatory bodies and policymakers to inform environmental reporting guidelines alongside financial reporting in annual reports. The study recommends among others that regulators such as Security and Exchange Commission should encourage firms in considering appointing expert foreign nationals to their board as evidenced that their presence can significantly impact environmental information disclosure, leveraging their diverse expertise and experience to enhance management's handling of environmental issues.

Keywords: Audit committee independence, audit committee meetings, board nationality, board independence, environmental disclosure

1.0 Introduction

Economic growth of every nation is a function of industrial development which is directly associated with environmental problems globally. The societies have since realized how environmental degradation severely affects their well-being, and the companies operating within the immediate environment are the principal contributors to this environmental pollution fundamentally due to their negligence and inefficiency in handling the environmental needs of the society in which they operate. This necessitates the stakeholders demanding reporting the magnitude in which a company reports their social and environmental activities and modalities they adopted in respect of enhancing the environmental activities and reporting same to its stakeholders.

Environmental disclosure by Nigerian listed companies warrant similar attention to that accorded to financial reporting because accountability and openness is a prerequisites of best governance practices for both mandatory and voluntary reporting practices in both developed and developing economies. Some scholars investigate the effect of companies' corporate governance on the degree of their reporting environmental issues along with the financial activities in the firm annual report.

Also, a homogeneous board with a limited pool of expertise can result in inadequate environmental stewardship, moreover, the features of audit committee have had a considerable influence on organizational efficiency hence, exploring the duo in the context of environmental accountability among Nigerian listed companies is imperative.

Achieving sustainable business practices is impossible without prioritizing environmental stewardship. Companies, particularly those with significant environmental impact, face intense scrutiny to balance their economic and social goals with environmental stewardship, minimizing harm and disclosing their ecological performance (Bala *et al.* 2021). Moreover, the dynamic business landscape has amplified the significance of corporate governance, prompting stakeholders to voice grave concerns about the ecological impact of industrial activities including oil extraction, mining, gas flaring, and manufacturing among others.

This paper's research aims are to explore how board of directors and audit committee attributes contribute to enhance ENDC, as evaluating the current state of ENDC practices among the Nigerian listed firms is crucial, especially considering the increasing importance of sustainability and transparency. Despite Global reporting Initiative (GRI) guidelines mandating transparency on environmental impacts, Nigerian listed firms fail to adhere to the GRI disclosure framework, with some neglecting to provide environmental accounting information altogether. ENDC in Nigeria is still discretionary due to the lack of quality standards guiding disclosure, indicating that ENDC has not received top priority from regulatory authorities and standard setters. This makes listed firms in Nigeria as an interesting case study for exploring ENDC- related issues. This research expands upon existing studies and contributes to the limited literature on ENDC in Nigeria, providing valuable insights into the crucial role of board and audit committee characteristics in enhancing ENDC practices.

Over the past few years, scholars have sought to understand the motivations behind non-financial information disclosure across various settings. Nevertheless, the existing findings seem to be inconsistent and ambiguous regarding the effect of audit committee and board attributes on ENDC necessitating the adoption of diverse research techniques and the consideration of previously excluded variables.

From the international perspective, Ika *et al.* (2021) and Junita and Yulianto (2018) investigated the determinants of environmental disclosure (ENDC) among Indonesian corporations. Altawalbeh (2020) review the audit committee attributes on voluntary disclosure of the non-financial firms in Jordan. Similarly, in Australia, Appuhami and Tashakor (2017) examine the impact of audit committee attributes on voluntary corporate social responsibility among listed firms in Australia, Also, Arif *et al.* (2020) assessed the effect of audit committee independence and activism on the quantity and quality of disclosures of environmental, social and governance among energy sector firms. Azman *et al.* (2019) in Malaysia examine the level of ENDC of environmentally sensitive industries and evaluate the relationship of board independence, meeting frequency and financial expertise of audit committee on ENDC.

The findings of those studies are quite different in respect of the attributes significance, territorial location as well as regulatory provision of ENDC. It is extensively acknowledged that effective corporate governance is linked to enhanced accountability and transparent ENDC to the entire company's stakeholders (Ika *et al.* 2021). Consequently, comprehending the extent to which audit and board characteristics affect the ENDC of listed companies is crucial.

Despite this, earlier research indicates that environmental reporting is still in its infancy in developing nations, particularly in Nigeria, also, social disclosure has increased in Nigeria, and empirical evidence suggests that ENDC remains relatively low compared to other corporate social responsibility aspects. Building on the existing literature, this study investigates the

current state of ENDC among Nigerian listed firms, examining whether the board of directors and audit committee characteristics can enhance such transparency.

2.0 Literature Review and Hypotheses Development

Environmental Disclosure

ENDC refers to the transparent reporting of a company's ecological impact, performance, and sustainability practices, acknowledging its corporate social responsibility to mitigate harmful environmental effects. ENDC serves as a hallmark of transparency, leading to an enhanced corporate image. (Deegan & Blomquist, 2016; Haque & Ntim, 2018).

Audit Committee Independence and Environmental Disclosure

Audit committee independence is represented by the fraction of non-executive directors on the audit committee, it is assumed that independence amplifies the audit committee capacity to scrutinize management behaviors and enhancing financial reporting quality encompassing ENDC practices Altawalbeh (2020). He further recommended that a substantial number of independent audit committee members would strengthen the accuracy, fairness and clarity of the firm's financial reporting.

Hassan and Hussainey (2022) examine the nexus between audit committee attributes and ENDC among companies. The study employed a sample of one hundred and thirty-eight (138) firms in Pakistan. The findings from the logistic regression model reveal that audit committee independence has an inverse significant influence on sustainability reporting of quoted firms in Pakistan. However, considering the period, country, economic, legal, and regulatory variations, and a different and more reliable results could have been obtained especially in Nigeria as an emerging market.

Kolsi (2022) examined how external auditor attributes impact corporate social responsibility disclosures of Abu-Dhabi Securities Exchange (ADX) using a sample of 410 companies' year observations. The findings from the multiple regression analysis reveal that audit committee independence has a positive significant association with corporate social responsibility disclosures of quoted firms in the United Arab Emirates (UAE). However, the study did not captured the period in which the study was conducted and coupled with variations in environmental, legal regulatory frameworks. Conducting a similar stud in the Nigerian context may yield a more reliable result. Similarly an empirical investigation of the relationship between audit committee independence and environmental reporting quality of listed companies in France was conducted by Moalla et al. (2020) on factors influencing the environmental reporting quality using a sample of 120 quoted firms. The findings from the study reveal that audit committee independence has a statistical positive effect on the environmental reporting quality of listed companies in France. Also, Ika et al. (2021) and Namakavarani et al. (2021) have identified a strong positive association between the presence of independent audit committee members and the level of social and ENDC. Similarly, Arif et al. (2020) discovered that independent audit committee members has a significant positive effect on the level of compliance with the GRI guidelines, indicating the favorable effect of audit committee independence on ENDC. In line with the foregoing arguments, the study hypothesis is that:

H₁ Audit committee independence has a direct significant influence on ENDC.

Audit Committee Meetings and Environmental Disclosure

The regularity of audit committee meetings indicates the recurrences of meetings conducted by audit committee members during the reporting period. Regular audit committee gathering were linked to improved corporate governance in companies (Al-Baidhani, 2014). Thus, it is important to investigate whether the frequency of audit committee meetings influence ENDC. Amin et al. (2021) examined the nexus between audit committee characteristics and corporate biodiversity disclosure of insurance companies operating in Japan for the period 2012 to 2018 using qualitative data. The Findings derived from the analysis shows that audit committee meetings has a positive significant effect on biodiversity disclosure among the listed insurance companies of Japan. It was however observed that the study was conducted using data of Japan insurance firms which cannot be generalizable to the entire financial service sector. Hence, conducting a similar investigation with a wider scope and coverage using the entire Nigerian financial service sector may likely yield a more reliable result. Similarly, Arif et al. (2020), Odoemelam and Okafor (2018), Appuhami and Tashako (2017) and Samaha et al. (2015) uncovered a notable positive link between audit committee frequency of meetings and ENDC. In line with the foregoing literatures, the study hypothesis is that:

H₂: Audit committee meetings have no significant impact on ENDC.

Board Nationality and Environmental Disclosure

Scholars commonly explore gender diversity as a unique attribute that distinguishes board members. Yet, diversity can also be quantified in terms of ethnicity, nationality, educational background, and age. According to Hussain et al. (2020); Olanrewaju et al. (2020), the diversity of board members' nationalities is therefore assessed as the proportion of directors with transnational nationality. Akinleye and Faustina (2017) reported that the growth of multinational firms in Nigeria has resulted in an increase in directors with foreign nationality which translated to the affected companies becoming more conscious in presenting annual reports that is all inclusive for the broader financial, social and environmental.

Olanrewaju *et al.* (2020) investigated the impact of board diversity on corporate social responsibility of listed oil firms in Nigeria using data obtained from annual report of eight (8) listed oil and gas firms of Nigeria Exchange group (NEG) from 2012 to 2018. A Panel Corrected Standard Error (PLSE) regression was used as a technique of data analysis. Findings from the study revealed a significant positive impact between board nationality diversity and corporate social responsibility.. The study however focused on corporate social responsibility of companies operating in the oil and gas sector of Nigerian economy, however, conducting a study on ENDC of the entire listed Nigerian companies using GRI may provide a more favorable findings.

Mirza *et al.* (2020) examined whether the diversity of the members of the board of directors including nationality, moderates the relationship between the corporate governance and investment decisions. Findings from the study showed that board nationality significantly moderate the relationship between governance and investment decision. The study concentrated on the moderating role of board nationality not as an independent variable of the study. Examining the nexus between the board nationality and environmental disclosure in the Nigerian context may yield a more reliable result which will add to the existing body of knowledge.

Naveed *et al.* (2021) investigated the nexus between board gender diversity and corporate social performance in different industries across China. The study used OLS regression models to analyze the data of Chinese industries covering the period 2009 to 2015. Board gender diversity (BGD) stimulates corporate social performance (CSP) of firms with environmental and social risk exposure. The overall result shows a positive effect of BGD on prorate social performance. The findings imply that BGD can mitigate the ESG risk exposure in terms of enhancing the CSP and the advantage can be transpired with the inclusion of even one female director (independent or executive) to the board. The study concentrated only on the effect of board gender diversity on corporate social responsibility aspect neglecting the nationality aspect of diversity on environmental disclosure despite the importance of environmental performance to both community and companies. Examining the nexus of board nationality and environmental disclosure among Nigerian listed firm will add to more flesh to the existing literature of the subject matter. Also, Odum (2023) revealed a significant direct impact of board nationality diversity on ENDC. In line with the foregoing arguments, the study hypotheses is that;

H₃ Board Nationality has a direct significant influence on ENDC.

Board Independence and Environmental Disclosure

The amended Company and Allied Matters Act (CAMA) 2020 mandates listed companies in Nigeria to appoint a minimum of 3 independent directors while the Security and Exchange Commission (SEC) advises a board composition of at least 5 members comprising a balance of executive and non-executive directors, with a stipulation that non-executive directors should outnumber the executive directors and a minimum of one independent director is required in the board.

Olayinka (2022) examined the effect of corporate transparency and sustainability reporting in Nigeria using 169 listed companies on the Nigerian Exchange Group (NEG) as of December 31, 2019 as the study's population with an ex-post facto design. A sample of 42 quoted firms were systematically chosen through stratified and purposive sampling techniques for a period of ten (10) years; 2010 to 2019, all inclusive. The study utilized secondary data obtained from published audited annual reports and accounts. The result derived from the multiple regression analysis shows that board independence has positive and significant effect on sustainability reporting of listed firms in Nigeria. Even though, the study has some limitation as sustainability reporting was used to describe the dependent variable of the study. If ENDC will be considered as the dependent variable, the gap identified could have been closed.

Al Amosh and Khatib (2022) investigated the effect of board independence on environmental, social, and governance performance (ESG). The study focused on Jordanian context as empirical evidence utilizing content analysis to obtain information from the yearly financial reports of 51 Jordanian traded companies. The study was carried out from 2012 to 2019 across an eight-year period. The findings from the study reveal that board independence plays an influential role in improving environmental, social, and governance disclosure quality among the quoted companies in Jordan. However, the study used content analysis as a metrics of environmental, social, and governance disclosure, which is biased, undependable, and misleading in portraying the true measure of ENDC. In addition, board independence was used as the moderating variable instead of an explanatory variable. If board independence and GRI would be employed as independent variables and measures for ENDC, respectively, a different result could have been obtained especially in the Nigerian context.

Anazonwu *et al.* (2018) examined the interconnection between board independence and sustainability reporting of listed Nigerian manufacturing companies. As the domain of the study, the selected firms were drawn from the conglomerates, consumer, and industrial goods subsectors. A panel research design was employed while Environmental, Social, and Governance (ESG) index was used as a measure for sustainability reporting. The results from the panel regression analysis show that board independence has a positive substantial impact on the sustainability reporting of a number of Nigerian listed manufacturing enterprises.

A positive significant association was identified between board independence and ENDC by Khan *et al.*, (2024), Altawalbeh (2020) and Masud *et al.* (2018) while in contrast, Martínez-Ferrero & Lozano (2021) and Rabi (2019) documented an inverse significant relationship between board independence and ENDC. In line with the foregoing arguments, the study hypothesises that;

H₄ Board independence has a direct significant influence on ENDC.

Theoretical Framework

Theoretically, Stakeholders’ theory was employed as the major underpinning theory, while agency and signaling theories were used as the supporting theories of the study. Stakeholders’ theory was used to anchor ENDC as it captures the interest of the immediate society and the operating environment. The theory focuses on how businesses may effectively manage their strong stakeholders (including the board of directors as environmental representatives) and strike a balance between the frequently conflicting demands of various stakeholder groups (Shaheen *et al.* 2022). Therefore, it is expected that firms that provide more ENDC will increase their reputation, attract potential investors, and entice prospective customers. This is because businesses can demonstrate that they have satisfied their stakeholder needs by acting responsibly toward the environment. On the other hand, Signaling and agency theory were employed to underpin the board of directors and audit committee attributes proxied by (Board independence, board nationalities, audit committee independence, and audit committee meetings) since they are employed to serve as shareholders’ representatives, protect or safeguard the shareholders’ aspirations amongst others.

3.0 Research Methodology

Ex-post factor design was used to facilitate collecting data from the annual reports and accounts of the listed firms Nigeria as well as describing, analyzing and interpreting the data gathered from the historical records. The study population comprised 162 firms and for a company to qualify, the company must have been listed before 2012 and remained listed until 2023, with data for the study period also being available. Following the application of the criteria, 67 companies were found to be ineligible, resulting in a total of 95 companies that meet the requirements. Statistical analysis was performed using STATA statistical package.

Study Model

The model used to evaluate and test for significance to establish the relationship between the dependent and the explanatory variables is based on the following mathematical relationship:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \dots + \beta_n X_n \dots\dots\dots (1)$$

$$ENDC_{it} = \beta_0 + \beta_1ACIN_{it} + \beta_2ACMT_{it} + \beta_3BDNT_{it} + \beta_4BIND_{it} + \beta_5FSZ_{it} + \mu_{it} \dots\dots (2)$$

Where: β_0 = Beta (Constant); $\beta_1 - 5$ = Beta (Coefficients); i = Firms; t = Time (Measured in years); μ = Error term; ENDC = Environmental Disclosure; ACIN = Audit Committee

Independence, ACMT = Audit Committee Meetings, BDNT = Board Members Nationality, BIND = Board Independence, FSZ = Firm Size.

Variables Measurements

Table 1 Variable measurements of all the study variables (Dependent, independent, moderating and control variables).

Table 1		Variable Measurement	
Variable Type	Variable Name	Measurement	Source
Dependent	Environmental Disclosure	Unweighted GRI disclosure index in Percentage	Haque & Ntim, (2018) Ha (2022)
		Percentage of the independent non-executive directors in the audit committee	
Independent	Audit Committee Independence	Total meetings convened by the committee during the year	Farhan and Freihat (2021)
Independent	Board Nationality	Ratio of Non-Domestic directors	
Independent	Board Independence	Proportion of independent Non-Executive Directors to Total Directors	Musa, (2023)
Control	Firm Size	Natural Logarithm of Total Assets	Hussain et al. (2020)

Source: Author's Compilation from Literature, 2024

Results and Discussion of Findings

Descriptive Statistics

The explained variable is ENDC while the independent variables are: ACIN, ACMT, BDNT, and BIND while FSZ represents the control variables. Table 2 presents the summary of statistics from the data obtained from the annual reports of the sampled firms for the period 2012 to 2023 in the form of mean, standard deviation, minimum, and maximum values.

Table 2. Descriptive Statistics

Variable	Mean	Std. Dev	Min	Max
ENDC	0.0406	0.0748	0.0000	0.5130
ACIN	0.2907	0.2064	0.2110	0.8333
ACMT	3.6490	0.8537	3.0000	8.0000
BDNT	0.1714	0.1421	0.0000	0.6528
BIND	0.4523	0.2184	0.0693	0.8889
FSIZE	8.9915	0.2792	7.0127	9.7200

Source: Researcher's Computation from Stata Output, (2024).

Table 2 shows that the dependent variable ENDC has a mean value of 0.0406 with a standard deviation of 0.0748. This means that on average ENDC of listed companies stood at 0.0406 signifying 4.1% of the sampled firms' accounts for their environmental issues. The result indicates a low level of deviation from the mean value (0.0748) of ENDC recorded within the

period of the study. The minimum and maximum values stood at 0 and 0.513 respectively. These figures also imply that some of the listed companies reported a low level of ENDC within the period and the least of which stood at 0% and a maximum of 51.3%. Also, table 2 shows that the average value about ACIN of the listed companies stood at 0.2907 with a standard deviation of 0.2064. This shows that on average, the ACIN of the Nigerian listed companies stood at 29.07% which means that on average 29.07% of the Nigerian listed firms are independent non-executive directors. The result further shows a moderate deviation from the mean value of ACIN recorded within the study period. More so, the minimum and maximum values of ACIN stood at 0.211 and 0.833 respectively. This indicates that the lowest level of ACIN in the listed Nigerian firms is 21.1% while there are some companies with as high as 83.3% of ACIN within the study period.

Furthermore, ACMT reflects a mean value of 3.649 with a standard deviation of 0.8537. This means that on average the ACMT of the listed firms in Nigeria stood at 4, which is in line with the law provision of having at least 4 meetings of audit committee of listed companies in Nigeria. The result depicts a low deviation from the mean value of ACMT recorded within the study period. The minimum and maximum values are 3 and 8 respectively. This indicates that the ACMT by some of the listed firms meets 3 times minimally whereas the maximum meetings by other companies is 8 times respectively.

More so, BDNT reflects a mean of 0.1714 with a standard deviation of 0.14. This means that on average the BDNT of the Nigerian listed companies stood at 17.14% of the total directors within the period of the study. Moreover, the minimum and maximum values in respect to BDNT stood at 0.00 and 0.653 respectively. These figures also imply that some of the listed firms reported as low as zero percentage of BDNT of the firms within the period, while some recorded a high level of BDNT to the tune of 65.3% within the period of the investigation.

Additionally, table 2 reflects a mean value with respect to the BIND of the listed firms to be 0.4523 with a standard deviation of 0.218. This means that on average 45.23% of the board of the listed firms in Nigeria are independent directors. The result shows a remarkably small quantity dispersion from the central value of BIND reported within the period of the study. The minimum and maximum values in respect to BIND stood at 0.069 and 0.889 respectively, which further means that most of the listed Nigerian complied with code of corporate governance provision of having majority of independent non-executive directors on the board. Even though still some of the companies are yet to comply as evidenced by the lowest value of 6.9%.

Correlation Analysis

The correlation matrix below reveals the relationship between the dependent variable and each of the independent variables as well as the relationship among the independent variables themselves. The summary of the correlation coefficients of the variables of the study are shown in Table 3

Table 3 Correlation Matrix

Variable	ENDC	ACIN	ACMT	BDNT	BIND	FSZ
ENDC	1.000					
ACIN	0.142	1.000				
ACMT	-0.028	-0.019	1.000			
BDNT	0.024	-0.145	0.082	1.0000		

BIND	0.065	0.615	0.012	-0.342	1.0000	
FSZ	-0.030	-0.026	-0.094	-0.062	-0.044	1.0000

Sources: Researcher’s Computation from Stata Output, (2024).

From the table, the variables ACIN (0.142), BDNT(0.024) and BIND(0.065) are positively correlated to the ENDC while ACMT(-0.028) and FSZ(-0.030) associated negatively with ENDC. Among the independent variables, both positive and negative relationships exists and there is absence of strong correlation between them. This indicates absence of possible multicollinearity between independent variables. However, a further test of multicollinearity was undertaken and the result confirmed absence of multicollinearity among the explanatory variables having the highest VIF value of 1.81 and mean VIF of 1.33 which cleared the uncertainty of multicollinearity as showcased earlier by correlation matrix. Similarly, the result of heteroscedasticity justifies that the p-value is significant at 1% level suggesting evidence of heteroscedasticity. Hence, a need for Generalized Least Square (GLS) because the model was met since OLS assumptions concerning homoscedasticity failed. Based on the heteroscedasticity result that recommended the use of GLS for the study, the GLS required the Hausman test and the rule of thumb is that if chi2 is significant, then fixed effect GLS is appropriate and vice-versa. The result shows χ^2 value of 2.13 and Prob > χ^2 of 0.8308 which is insignificant. This signifies that the study has significant evidence to suggest that the null hypothesis is suitable for interpretation. This is because the difference in coefficients between the 2 models is not statistically significant. Therefore, coefficients of H0 model are more reliable than that of H1.

Regression Result

The regression analysis result is presented in Table 4.

Table 4. Fixed Effect Regression Result

Variable	Coefficient	t-value	P-value
ACIN	0.0683	2.940	0.003
ACMT	-0.0042	-2.430	0.015
BDNT	0.0739	2.240	0.025
BIND	-0.024	-0.83	0.406
FSZ	0.0160	-2.20	0.028
Con	0.1606	2.59	0.010
R-Square	0.02		
F(5, 945)	4.91		
Pr > F	0.0002		

Source: Stata Output (2024)

The result as portrayed in table 4 shows that R^2 value of the model which is the coefficient of determination is 0.02. This signifies that only 2% of systematic variation among the Nigerian listed companies was collaboratively explained by the changes in the ACIN, ACMT, BDNT, BIND and FSZ. This shows that the explanatory capability of the explanatory variables stood at only 2 percent in which the remaining 98% was not captured in the model. According to

Cohen (1988), the R-squared of 2 percent falls under small proportion, which signifies that there is small effect of the independent variables on the dependent variable represented by ENDC based on the data set available. In order to improve the explanatory power, there is need to consider incorporating more variables into the model. The model was statistically fitted as indicated by the F-statistics value of 4.91 which is significant at 5% level confirmed the fitness of the model. The result confirmed that the relationship between the dependent and independent variables is not mere coincidence. The results indicate that four independent variables and one control variable can only explain 2 percent of the variation in the dependent variable, which is environmental disclosure. This signifies that there is a need for conducting more research in the area thereby capturing more audit committee and board of directors' attributes.

Also, table 4 shows positive coefficients of ACIN(0.0683), BDN(0.0739) and FSZ(0.0160) while ACMT and BIND revealed a negative coefficient of -0.0042 and -0.024 respectively which implies an inverse relationship between ACMT, BIND, and ENDC of the Nigerian listed companies.. The result shows that the ACIN, BDN and FSZ has significant positive influence on ENDC of the Nigerian listed companies. The significant positive association of ACIN on ENDC is in line with the findings of Ika et al. (2021), Namakavarani et al. (2021) and Arif et al. (2020) who uncovered a direct significant relationship between ACIN and ENDC. The result implies that the higher the independence of audit committee of listed Nigerian firms, the more the attendant to environmental issues by the companies.

The BDN depicted a positive significant effect on ENDC among the listed Nigerian firms. This signifies that having foreign nationals among board members of listed Nigerian firms enhances the environmental performance of listed companies in Nigeria. The findings of this study is in line with those of Odum (2023) and Olanrewaju et al. (2020) who reported a significant direct impact of board nationality diversity on ENDC. However, the results of the relationship between ACMT and ENDC was found to be negative and significant. Surprisingly, the findings implies that the higher the meeting frequency, the lower the environmental activities disclosure among listed Nigerian companies. The findings support the result reported by Khan et al. (2024) who discovered that audit committee meetings had a detrimental effect on ENDC. However, the findings contradict the result of Amin et al. (2021), Arif et al. (2020), Odoemelam and Okafor (2018), Appuhami and Tashako (2017), and Samaha et al. (2015) who uncovered a notable positive link between audit committee meetings and ENDC.

BIND unexpectedly has no significant relationship with the ENDC. The result indicates that this variable will not influence environmental information disclosure of listed companies in Nigeria.

Based on theoretical assumptions, this study anticipates that an independent board will have a significantly positive impact on ENDC, presumed to encourage companies to disclose more environmental information owing to their reputation, expertise, and governance capabilities. .Based on the findings, this study support hypotheses one and three, which claim that audit committee independence and board nationality have a direct significant influence on ENDC and fail to the reject hypotheses two and four which claim that audit committee meetings and board independence has a direct significant effect on ENDC of listed Nigerian companies

5.0 Conclusion and Recommendations

The aim was to examine the effect of audit and board attributes of listed companies in Nigeria on ENDC. The key findings of this empirical investigation show that ACIN and BDNT have substantial influence on ENDC of listed Nigerian companies. This supports the stakeholder's theory which suggests that the board of directors as environmental representatives, protect the shareholders' objective since more ENDC will increase their reputation, appeal prospective investors and customers. This study was limited to listed firms in Nigeria as such, the findings may not be extended to non-listed firms.

Based on the conclusion the study recommends that since audit committee independence positively and significantly influences ENDC, listed Nigerian firms should prioritize the appointment of independent committee members free from conflicts of interest. Empowering audit committees with oversight responsibilities for environmental disclosure is essential, enabling them to conduct regular reviews, ensure compliance with regulations, and promote transparency through clear and accurate reporting. Additionally, evidence from this study suggests that appointing foreign nationals to the board of listed Nigerian companies can significantly impact environmental information disclosure, leveraging their diverse expertise and experience to enhance management's handling of environmental issues. This study's outcome offer valuable insight for Nigerian regulatory bodies and policymakers to inform environmental reporting guidelines alongside financial reporting in annual reports. The study recommends among others that regulators such as Security and Exchange Commission should encourage firms in considering appointing expert foreign nationals to their board as evidenced that their presence can significantly impact environmental information disclosure, leveraging their diverse expertise and experience to enhance management's handling of environmental issues.

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