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BOARD CHARACTERISTICS AND ENVIRONMENTAL DISCLOSURE OF LISTED OIL AND GAS FIRMS IN NIGERIA AND SOUTH AFRICA

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ABSTRACT:

This study assessed the effect of Board Characteristics on Environmental Disclosure of listed Oil and Gas firms in Nigeria and South Africa for eleven (11) years period ranging from 2011-2021. Gender Diversity, Board Size and Board Independence served as Board Characteristics proxies while Environmental Disclosure was measured with Effluent Disclosure. The study employed secondary data extracted from the Nigerian Exchange (NGX) Group and Johannesburg Stock Exchange (JSE) fact books, annual reports and accounts, stand-alone sustainability reports of sample firms. The study adopted Ex-post facto research design while the panel data sets were analyzed using Pearson Correlation matrix and Panel Least Square Regression analysis via E-Views 10.0. The result revealed that Gender Diversity has a significant and positive effect on Effluent Disclosure (β1 = 0.082165; p-value = 0.0000); Board Size has a significant and positive effect on Effluent Disclosure (β2 = 0.159110; p-value = 0.0000); Board Independence has a significant and positive effect on Effluent Disclosure (β3 = 0.148493; p-value = 0.0000) of listed Oil and Gas firms in Nigeria and South Africa at 5% level of significance respectively. In conclusion, the study upholds that Board Characteristics significantly affects Environmental Disclosure of listed Oil and Gas firms in Nigeria and South Africa. It was recommended inter alia that firms should always have both women and men in the organizational teams in order to benefit from the different points of view and approaches that come from different life experiences, thus a multiplicity of perspectives can spark creativity and innovation, and help organizations spot and seize new opportunities.

1. INTRODUCTION

Boards also have a responsibility to initiate organisational change and facilitate processes that support the organisational mission. Further, the boards seek to protect the shareholder's interest in an increasingly competitive environment while maintaining managerial professionalism and accountability in pursuit of good firm performance. The role of the Board is, therefore, quite daunting as it seeks to discharge diverse and challenging responsibilities. To understand the role of board, it should be recognised that boards consist of a team of individuals, who combine their competencies and capabilities that collectively represent the pool of social capital for their firm that is contributed towards executing the governance function. As a strategic resource, the board is responsible to develop and select creative options in advancement of the firm. Environmental accounting and its reporting are, mostly, made by a voluntary character, especially when they concern the natural environment. The requirements of environmental standards, issued by International Organization for Standardization (ISO) have been the basis to many researches on environmental responsibility. To meet these demands, the corporate annual report and accounting information system have been considered as one of the important information systems to communicate with firms' stakeholders (Mbonu & Amahalu, 2022; Onoja, Okoye & Nwoye, 2021). Activities of business organisations such as environmental pollution and unsustainable use of natural resources cause increase in the emission of greenhouse gases. This consequently results in depletion of the ozone layer and global warming. As a result, the role of companies in addressing environmental and sustainability issues is deemed very vital. In the past, companies paid very little attention to the environmental degradation caused by their activities. However, in the new era of sustainability where most people now recognize the importance of preserving clean air and clean water; customers are willing to pay more for products whose processes are environmental friendly and investors place very high values on environmental responsibility. This development gave rise to the environmental accounting movement, and it has in the most recent past been coherently argued that there is a moral cause for businesses not only to report on financial matters but also to report on their impact on the social and natural environment to demonstrate responsiveness to all sources of concerns from various stakeholders (Amahalu & Moedu, 2023).

Corporate environmental disclosure simply refers to self-reporting of firms' environmental impact information to stakeholders. The communication of this information is done in a variety of different forms and mediums such as the annual reports, stand-alone environmental reports, pamphlets, documentaries, brochures. Environmental accounting, audit and disclosure enable an organization to demonstrate its responsiveness to all sources of concern from stakeholders. Reliable information is required in making decisions concerning trading, compliance and potential penalties and accountants play a role in the recognition, measurement and reporting of Greenhouse Gas emissions and other wastes (Okudo, Mbonu & Amahalu, 2022). More so, it is pertinent to be aware of relevant environmental regulations and prohibitions as well as financial effects of environmental liabilities because accountants may find themselves in a position where they have to furnish regulatory authorities with required information disclosed in the financial statements. Despite the heightened interest and pressure from stakeholders; corporate environmental reporting is still at its lowest ebb in Nigeria when compared with counterpart countries. Given the increasing importance of Boards, it is important to identify the Board characteristics that make environmental reporting more effective. Numerous studies have been done on the relationship between board characteristics and performance, yet no consensus has been reached. For instance, Amahalu and Okudo (2023); Segarra-Moliner (2022) reported a positive relationship; Okudo and Amahalu (2023); Onyali and Uchegbu, (2021) found a negative relationship while on the other a non-significant relationship between board characteristics and performance was reported by Okeke, Ifurueze and Nwadiaro (2021). It is to this end, that this sought to ascertain the effect of Board characteristics on environmental disclosure of oil and gas firms in Nigeria.

1.1 Objectives of the Study

The main objective of this study is to evaluate the effect of Board Characteristics on Environmental Disclosure of listed Oil and Gas firms in Nigeria and South Africa. The specific objectives are:

i. To determine the effect of Gender Diversity on Effluent Disclosure of listed Oil and Gas firms in Nigeria and South Africa.
ii. To evaluate the effect of Board Size on Effluent Disclosure of listed Oil and Gas firms in Nigeria and South Africa
iii. To ascertain the effect of Board Independence on Effluent Disclosure of listed Oil and Gas firms in Nigeria and South Africa

1.2 Hypotheses

The following null hypotheses were formulated to proffer solutions to the research questions:

H_{01}: Gender Diversity has no significant effect on Effluent Disclosure of listed Oil and Gas firms in Nigeria and South Africa.

H_{02}: Board Size has no significant effect on Effluent Disclosure of listed Oil and Gas firms in Nigeria and South Africa.

H_{03}: Board Independence has no significant effect on Effluent Disclosure of listed Oil and Gas firms in Nigeria and South Africa.

2. LITERATURE REVIEW

2.1 Conceptual review

2.1.1 Board Characteristics

The aim of board diversity is to cultivate a broad range of attributes and perspectives that reflects real-world demographics. Characteristics in the board brings about advancing businesses to new heights by bringing together diverse experience that together enables a company to navigate a dynamic marketplace with leaders in place that fully understand, and represent, the stakeholders they serve (Mbonu & Amahalu, 2021). The key to finding those of the highest calibre to create a diverse board of excellent leaders is in the search process. Boards must ensure the maximum field of vision is applied to identify and attract the most qualified and passionate leadership contenders from around the world. The board's key purpose is to ensure the company's prosperity by collectively directing the company's affairs, while meeting the appropriate interests of its shareholders and relevant stakeholders (Amahalu & Okudo, 2023).

2.1.2 Gender Diversity

Diversity means that each individual is unique and recognizing our individual differences. These can be along the dimensions of race, ethnicity, gender, sexual orientation, socio-economic status, age, physical abilities, religious beliefs, political beliefs, or other ideologies. Board gender diversity stem from the presence of women on board to the percentage representation of women on the board of a corporate organization (Mbonu & Amahalu, 2021b), Gender diversity is equitable or fair representation of people of different genders. It most commonly refers to an equitable ratio of men and women. Gender diversity in the workplace means that men, women, and other genders are hired at an equal and consistent rate. Gender diversity is an important factor in boards because it can contribute to the functioning of boards which could potentially positively influence corporate performance (Amahalu & Osonwa, 2023). Evidence shows that gender equality advancements have a ripple effect on all areas of sustainable development, from reducing poverty, hunger and even carbon emissions to enhancing the health, well-being and education of entire families, communities, and countries.

2.1.3 Board Size

Board size is the total number of directors on board. Board size refers to the total number of directors on the board of each sample firm which is inclusive of the Chief Executive Officer and Chairman for each accounting year. This will also include outside directors, executive directors and non-executive directors (Al Azeez, Sukoharsono, Roekhudin & Andayani, 2019). Governance advises between eight and 10 members as the optimal number, with eight being more suitable for a larger, more commercial operation, and 10 more appropriate for smaller organizations (Okudo, Amahalu & Oshiole, 2023). According to a study by *The Wall Street Journal*, the smallest board size has an average of 9.5 board directors. Large boards are defined as those with 14 or more board directors. Overall, companies have an average of 11.2 board directors.

2.1.4 Board Independence

Independence occurs when a board member has not been and is not currently employed by the company or its auditor and the board member's employer does not do a significant amount of business with the company. An independent director is a member of a board of directors who does not have a material or pecuniary relationship with company or related persons, except sitting fees (Amahalu & Osonwa, 2023). An independent director, in corporate governance, refers to a member of a board of directors who does not have a material relationship with a company and is neither part of its executive team nor involved in the day-to-day operations of the company.

2.1.5 Environmental Disclosure

Environmental reporting and disclosure practices are a means of communicating to the stakeholders about the impact of the organization's actions on the environment. Environmental disclosure is a form of corporate responsibility to the society as a result of activities which emerging a negative impact on the environment. Meanwhile, environmental disclosure is as the accountability of fulfilling the information needs of the company for investors, shareholders, customers, and other parties (Okudo & Amahalu, 2023). Environmental disclosure comprises of information relating to a corporation's activities, aspirations, and public image with regard to environmental, community, employee and consumer issues.

2.1.6 Effluent Disclosure

Effluents are liquid waste or sewage discharged into a river or the sea. Liquid factory waste, smoke, and raw sewage can all be called effluents (Okeke, Ifurueze & Nwadiaro, 2021). Effluent is wastewater - treated or untreated that flows out of a treatment plant, sewer, or industrial outfall.

Generally refers to wastes discharged into surface waters. Effluent refers to liquid discharge (Choi, 2019). Effluent refers to wastes discharged into surface waters (Okafor, Egbunike & Amahalu, 2022).). An effluent cost a fee or tax to be paid on discharges into the environment, based on the quantity and/or quality of discharged pollutants.

2.1.7 Board Characteristics and Environmental Disclosure

The active role in company affairs that boards of directors play can provide a platform and an essential mechanism for mitigating the agency problem that arises between shareholders and management. Given that boards are responsible for the direction and leadership of their enterprises, it seems reasonable to conclude that directors actively influence firm performance, and that they are therefore responsible (on behalf of shareholders) for deciding upon the types of board structure that may enable them to maximize shareholders' wealth (Ekweozor, Ogbodo & Amahalu, 2022; Hult, Mena, Gonzalez-Perez, Lagerström & Hult, 2018; Okudo, Amahalu, Obi & Okafor, 2022). Amahalu, Okoye and Nnadi (2023) reported that the independence board is not truly independent in carrying out its duties. This is because independent directors have personal, financial, and social relationships with dominant shareholders so that it will affect their independent assessment as an independent board. Fuzi, Halim and Julizaerma (2016) show that having board independence does not guarantee improved firm financial performance because of the poor monitoring role of the independent board. In a similar vein, Okudo, Ezechukwu and Amahalu (2022); Farhan,Razaq and Freihat (2021) state that the independent board has a positive effect on improving the company's financial performance.

2.2 Theoretical Review

2.2.1 Stakeholders Theory

Stakeholders' theory was propounded by Dr. F. Edward Freeman in the 1983. The stakeholder theory is a theory of organizational management and business ethics that accounts for multiple constituencies impacted by business entities like employees, suppliers, local communities, creditors. It addresses morals and values in managing an organization, such as those related to corporate social responsibility, market economy, and social contract theory. Dr. Freeman suggests that a company's stakeholders are those groups without whose support the organization would cease to exist. These groups would include customers, employees, suppliers, political action groups, environmental groups, local communities, the media, financial institutions and governmental groups. This view paints the corporate environment as an ecosystem of related groups, all of whom need to be considered and satisfied to keep the company healthy and successful in the long term.

2.3 Empirical Review

Al-Mawali (2021) investigated both the direct and indirect relationships between Environmental Cost Accounting (ECA), Environmental Performance (EP) and Financial Performance (FP). The samples are companies listed in the industrial sector of Amman Stock Exchange. Subjective data using questionnaire are collected to measure ECA and EP, and objective data are obtained from the companies' annual reports to measure FP. The study used structural equation modeling to analyze the data. The results showed that ECA positively affected EP and FP, also ECA positively affected EP. Moreover, the results confirmed the mediation role of EP on the direct relationship between ECA and FP.

Al-Naser, Riyadh and Albalaki (2021) investigated the effect of environmental cost disclosure (ECD) and social cost disclosure (SCD) on financial performance (FP) mediated by earning management (EM). To achieve this purpose, a quantitative research method was employed using secondary data sources including reports of corporate social responsibility (CSR) and annual reports. Then, the data were examined using smart partial least squares (PLS). The research sample was represented by international energy corporations during the period (2016, 2017, and 2018). The study results revealed that the environmental and social costs disclosure significantly affected financial performance. This was in agreement with theories of instrumental stakeholders, legitimacy, and agency. This means that more cost on environmental and social information disclosure can generate greater opportunities for corporations.

Munjal and Malarvizhi (2021) analyzed the relationship between environmental performance and financial performance of banks operating in India for a period 2013-14 to 2017-18. Secondary data wre collected for a sample of 83 banks operating in India. Content analysis was applied to extract information about environmental performance disclosed by sample banks followed by construction of environmental disclosure score index. Hierarchical multiple regression was applied to analyze relationship between environmental performance and financial performance after controlling for effects of size, financial leverage and capital intensity. Results exhibit no significant relationship between environmental performance and financial performance of banks operating in India.

Badingatus, Ukhti and Ntim (2021) investigated the quality and scope of environmental disclosure (ED) in environmentally sensitive manufactures. The study also analyzed the effect of media coverage, environmental award, and financial performance on the quality of environmental disclosure and the extent to which the implementation of corporate governance (CG) principles in moderating these factors. The study used 135 manufacturing companies listed in the Indonesian Stock Exchange during 2012–2016. Partial least squares–structural equation modeling (PLS-SEM) was employed to test the research hypothesis. The results pointed out that media coverage and awards associated with the quality of environmental disclosure. The media coverage and environmental awards can improve the quality of environmental disclosure and the correlation will increase if the company pays attention to the implementation of corporate governance principles.

Uzoka and Ogheneochuko (2021) evaluated the effect of environmental disclosure practices on performance of Chemical manufacturing companies in Nigeria and South Africa. The study comparatively evaluated the environmental disclosure level of chemical manufacturing companies in Nigeria and South Africa in 2017 financial year. The study adopted the ex post facto research design. The study adopted the environmental disclosure index of Fodio and Oba. Binary weight was assigned to the disclosure of these items in the financial report. The data was analyzed using multiple regression analysis. The finding revealed that environmental product disclosure has negative and non-significant effect on the performance of chemical manufacturing companies in Nigeria and South Africa. The finding also showed that there is no statistical significant effect on the environmental disclosures of sustainability and pollution on the performance of chemical manufacturing companies in Nigeria and South Africa.

3. MATERIAL AND METHOD

The research design that was employed in this study is *ex-post facto* research design.The population of this study consists of all the twenty (20) listed oil and gas firms in Nigeria and South Africa. This entails 12 listed oil and gas firms in Nigeria, which are: 11 Plc (formerly Mobil Oil Plc); Anino International Plc; Capital Oil Plc; Conoil Plc; Eterna Plc; Forte Oil Plc; Japaul Oil & Maritime Services; MRS Oil Nigeria Plc; Oando Plc; Rak Unity Petroleum Company Plc; Seplat Petroleum Development Company Plc; Total Nigeria Plc and eight (8) listed oil and gas firms in South Africa which include: Engen Petroleum; Imvume; Johannesburg Gas Works; Montuak Energy; PetroSA; Sasol; Total South Africa; Transnet Pipelines companies listed on the Nigerian Exchange (NGX) Group and Johannesburg Stock Exchange (JSE) respectively as at 31st December, 2021. Seventeen (17) Oil and Gas companies were selected as the sample size of this study with the utilization of purposive sampling method, while the remaining three (3) oil and gas firms were not sampled due to non-availability of complete financial statements for the period of interest (2011-2021). Data were gathered from the published financial statements of listed ten (10) Oil and Gas companies in Nigeria: Capital Oil Plc; Conoil Plc; Eterna Plc; Forte Oil Plc; Japaul Oil & Maritime Services; MRS Oil Nigeria Plc; Oando Plc; Rak Unity Petroleum Company Plc; Seplat Petroleum Development Company Plc; Total Nigeria Plc and seven (7) listed Oil and Gas firms in South Africa: Engen Petroleum; Imvume; Montuak Energy; PetroSA; Sasol; Total South Africa; Transnet Pipelines for eleven (11) years spanning from 2011 to 2021, using Purposive sampling method. The sample of the study comprises all companies that meet the following conditions: the shares of the company shall be traded in the financial market during the study period; the company has all the necessary data to calculate the variables of the study, in addition to the availability of data for the previous year for the study period; the company has not been incorporated or stopped trading during the study period; no merger process between firms; the sample firms publish audited financial statements using reporting period ended on December 31 each year. This study primarily utilized secondary data that were extracted from the stand alone reports, annual reports and statements of account of the sample listed Oil and Gas companies for the eleven (11) years period of interest spanning from 2011 to 2021.

Content analysis was adopted in this study. This was performed on the sample environmental reports to study how organizational boundaries are set for the whole report and how operational boundaries are set for specific environmental indicators. Any data using fair standard meanings for a specific group of people will be subjected to content analysis (Baker & Schaltegger, 2015). This study adopted the Global Reporting Initiative (GRI) framework disclosures according to the G4 guidelines for the purpose of developing the Environmental disclosure indices. Environmental Reporting will be evaluated by 21 indicators.

For each of these sustainability reports, all the 21 indicators were scored as follows:

i. a score of 0 for an item not referred to in a report.
ii. a score of 1 when the report only briefly mentioned something pertinent to the item or provided only qualitative statements.
iii. a score of 2 when the report provided detailed information with some numerical support; and rarely
iv. a score of 3 was given when a report provided extensive numerical support with data on goals achieved or fully accomplished.

So, a total score for environmental disclosure could reach the maximum score of 36.

Therefore,

EDI =TDP/MP

Where;

EDI = Environmental Disclosure Index

TDP = Total Disclosure Points of a Firm

MP = Maximum Points for a Firm

3.1 Operationalisation of Variables

Table 1 Variable Description

Variable Type	Indicators	Variable Symbols	Definition and Measurement
Independent Variable (Board Characteristics**)**			
	Gender Diversity	GDV	$\frac{\text{Number of Women on Board}}{\text{Total Number of Directors on Board}}$
	Board Size	BDSZ	Total Number of Directors on the Board
	Board Independence	BDIND	$\frac{\text{Number of Independent Directors}}{\text{Total Directors on the Board.}}$
Dependent Variable (Environmental Disclosure)			
	Effluent Disclosure	EFD	$\frac{\text{Total effluent score disclosed}}{\text{Maximum number of Effluent disclosure score that a firm could disclose}}$

3.2 Model Specification

In order to test for the relevance of the hypotheses regarding the effect of Board Characteristics on Environmental Disclosure of listed Oil and Gas firms in Nigeria and South Africa. This study adapted the model of Onoja, Okoye and Nwoye (2021):

$EPD = \beta o + \beta_1 OWNC + \beta_2 FOWN + \beta_3 BDIND + \beta_4 BDSZ + \beta_4 BDREM + \varepsilon$ ……………… (1)

Where:

EPD = Environmental Prevention Disclosure

OWNC = Ownership Concentration

FOWN = Foreign Ownership

BDIND = Board Independence

BDSZ = Board Size

BDREM = Board Remuneration

ε = error term

Considering the utilization of the adapted model, the following model was thus formulated:

$EFD_{it} = \beta o + \beta_1\ GDV_{it} + \beta_2\ BDSZ_{it} + \beta_3\ BDIND_{it} + \beta_4\ ACSZ_{it} + \beta_5\ OWNC_{it} + \mu_{it}$

Where:

βo is the intercept of the regression.

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ are the coefficients of the regression

EFD_{it} = Effluent Disclosure of firm í in period t

GDV_{it} = Gender Diversity of firm í in period t

$BDSZ_{it}$ = Board Size of firm í in period t

$BDIND_{it}$ = Board Independence of firm í in period t

μ_{it} = Error term

4. RESULT AND DISCUSSIONS

4.1 Data Analysis

Table 2: Pearson Correlation Matrix

	EFD	GDV	BDSZ	BDIND
EFD	1.0000			
GDV	0.5821	1.0000		
BDSZ	0.4271	0.7258	1.0000	
BDIND	0.7390	-0.2631	-0.1784	1.0000

Source: E-Views 10.0 output, 2023

Table 2 shows the existence of a positive relationship between GDV (0.5821), BDSZ (0.4271), BDIND (0.7390) and EFD

Table 3: Panel Least Square Regression Analysis testing the effect of Board Characteristics on Environmental Disclosure

Dependent Variable: EFD				
Method: Panel Least Squares				
Date: 05/13/23 Time: 16:42				
Sample: 2011 2021				
Periods included: 11				
Cross-sections included: 17				
Total panel (balanced) observations: 187				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.171355	0.038633	4.435441	0.0000
GDV	0.082165	0.012251	6.706748	0.0000
BDSZ	0.159110	0.008621	18.45554	0.0000

BDIND	0.148493	0.009765	15.20663	0.0000
R-squared	0.777957	Mean dependent var		0.268182
Adjusted R-squared	0.703169	S.D. dependent var		0.135931
S.E. of regression	0.074058	Akaike info criterion		-2.346768
Sum squared resid	1.003689	Schwarz criterion		-2.277654
Log likelihood	223.4229	Hannan-Quinn criter.		-2.318763
F-statistic	147.8731	Durbin-Watson stat		2.246365
Prob(F-statistic)	0.000000			

Source: E-Views 10.0 Panel Regression Output, 2023

4.1.1 Interpretation of Regression Result

The generated panel least regression result in table 3 indicates that:

EFD = 0.171355 + 0.082165GDV + 0.159110BDSZ + 0.148493

The implication of the regressed result is that, taking all factors into account (GDV, BDSZ, and BDIND) as constant at zero, EFD will be 0.171355. The analysed result also showed that taking all other independent variables at zero, a unit increase in BGDV, BDSZ and BDIND will lead to 8.22%, 15.91% and 1 4.85% increase in EFD. The five independent variables that were studied, explained only 70.32% of the factors affecting EFD among listed oil and gas firms in Nigeria and South Africa as represented by the adjusted R^2. This therefore means that other factors not studied in this research contribute about 29.68% influence on EFD of sampled firms. The Durbin-Watson value of 2.246365 which is not more than 2 approximately is an indication that the model is fit and does not contain auto-correlation.

4.1.2 Decision:

Overall, the overall significance value; Prob(F-statistic) = 0.000000 is less than the critical value of 5% (0.05), thus, inferring that the model is statistically significant in predicting how GDV, BDSZ and BDIND relate with EFD of listed oil and firms in Nigeria and South Africa at 5% level of significance. Thus, H_1 is accepted which upholds that board characteristics indices has a significant influence on environmental disclosure of listed oil and gas firm in Nigeria and South Africa at 5% level of significance.

4.1.3 Findings

Based on the analysis of this study, the following findings were deduced:

i. Gender Diversity has a significant and positive effect on Effluent Disclosure of listed Oil and Gas firms in Nigeria and South Africa at 5% level of significance (β_1 = 0.082165; p-value = 0.0000).

ii. Board Size has a significant and positive effect on Effluent Disclosure of listed Oil and Gas firms in Nigeria and South Africa at 5% level of significance (β_2 = 0.159110; p-value = 0.0000).

iii. Board Independence has a significant and positive effect on Effluent Disclosure of listed Oil and Gas firms in Nigeria and South Africa at 5% level of significance (β_3 = 0.148493; p-value = 0.0000).

CONCLUSION AND RECOMMENDATIONS

This study assessed the effect of Board Characteristics on Environmental Disclosure of listed Oil and Gas firms in Nigeria and South Africa during the period 2011-2021. Gender Diversity, Board Size, and Board Independence served as Board Characteristics proxies while Environmental Disclosure was measured with Effluent Disclosure. To determine the relationship that exists amongst the study variables, Pearson Correlation Coefficient and Panel Least Square (PLS) regression estimate were employed. This study revealed that Gender Diversity has a significant and positive effect on Effluent Disclosure (β_1 = 0.082165; p-value = 0.0000); Board Size has a significant and positive effect on Effluent Disclosure (β_2 = 0.159110; p-value = 0.0000); Board Independence has a significant and positive effect on Effluent Disclosure (β_3 = 0.148493; p-value = 0.0000) of listed Oil and Gas firms in Nigeria and South Africa at 5% level of significance respectively. In conclusion, the study upholds that Board Characteristics significantly affects Environmental Disclosure of listed Oil and Gas firms in Nigeria and South Africa.

In line with the findings of this study, the following recommendations were offered:

i. Based on the positive relationship between gender diversity and environmental disclosure, it is suggested that firms should always have both women and men in the organizational teams in order to benefit from the different points of view and approaches that come from different life experiences, thus a multiplicity of perspectives can spark creativity and innovation, and help organizations spot and seize new opportunities.

ii. Firms should consider increasing the number of experienced board members because this will contribute to improving corporate disclosure and consequently reduce information asymmetry, which not only clarifies the conflicts of interests between shareholders and management but also makes management more accountable.

iii. Company boards should have an independent majority. An independent majority on the board is more likely to consider the best interests of shareowners first. It also is likely to foster independent decision-making and to mitigate conflicts of interest that may arise.

REFERENCES

Al Azeez, H. A. R., Sukoharsono, E. G., Roekhudin, & Andayani, W. (2019).The impact of board characteristics on earnings management in the international Oil and Gas Corporations.*Academy of Accounting and Financial Studies Journal, 23(1)*, 1–26.

Al-Mawali, H. (2021). Environmental cost accounting and financial performance: The mediating role of environmental performance.*Accounting*, 7(3), 535-544.

Al-Naser, K. H., Riyadh, H. A., & Albalaki, F. M. (2021).The impact of environmental and social costs disclosure on financial performance mediating by earning management. *Journal of Cases on Information Technology (JCIT)*, *23*(2), 50-64.

Amahalu, N.N., & Moedu, V.O. (2023). Triple bottom line reporting and financial performance of quoted oil and gas firms in Nigeria. *International Journal of Research Publication and Reviews, 4*(4), 1172-1180.

Amahalu, N.N., & Okudo, C.C. (2023). Firm characteristics and cash holdings of quoted conglomerates in Nigeria. *Scholarly Journal of Management Sciences, 2*(3), 111-126

Amahalu, N.N., & Okudo, C.L. (2023). Effect of corporate social responsibility on financial performance of quoted oil and gas firms in Nigeria. *Research Journal of Management Practice, 3*(3), 25-38.

Amahalu, N.N., & Osonwa, N.C. (2023). Board characteristics and market value added of listed service firms in Nigeria. *International Journal of Research*, *10*(4), 141-153.

Amahalu, N.N., & Osonwa, N.C. (2023). Board characteristics and market value added of listed service firms in Nigeria. *International Journal of Research*, *10*(4), 141-153

Amahalu, N.N., Okoye, P.V.C., & Nnadi, C.P. (2023). Effect of board diversity on financial performance of quoted hospitality firms in Nigeria. *International Journal of Research in Commerce and Management Studies (IJRCMS) 5*(1), 28-38.

Badingatus, S. & Ukhti, M. & Ntim, C.G. (2021)Factors influencing environment disclosure quality and the moderating role of corporate governance,*Cogent Business & Management,8:1*,DOI: 10.1080/23311975.2021.1876543

Ekweozor, M.A., Ogbodo, O.C., & Amahalu, N.N. (2022). Effect of corporate social responsibility on financial performance of listed oil and gas firms in Nigeria. *International Journal of Trend in Scientific Research and Development (IJTSRD)6* (2), .282-289.

Farhan, A., Razaq, A., & Freihat, F. (2021). The Impact of Government Ownership and Corporate Governance on the Corporate Social Responsibility : Evidence from UAE. 8(1), 851-861. https://doi.org/10.13106/jafeb.2021.vol8.no1.851

Fuzi, S. F., Halim, S.A. & Julizaerma, M.K. (2016).Board independence and firm performance.*Procedia Economics and Finance, 37(16),* 460-465.

Hult, G.T., Mena, J.A., Gonzalez-Perez, M.A., Lagerström, K., & Hult, D.T. (2018). A ten country-company study of sustainability and product-market performance: Influences of doing good, warm glow, and price fairness. *J. Macromarket., 38,* 242–261.

Mbonu, C.M. & Amahalu, N.N. (2022). Effect of corporate social responsibility costs on financial performance of listed deposit money banks in Nigeria. *Journal of Global Accounting, 8*(1), 40 - 52.

Mbonu, C.M., & Amahalu, N.N. (2021a). Effect of firm characteristics on capital structure of insurance companies listed on Nigeria stock exchange *International Journal of Management Studies and Social Science Research, 3*(5), 217-228

Mbonu, C.M., & Amahalu, N.N. (2021b). Effect of board diversity on borrowing cost of listed conglomerates in Nigeria. *American Research Journal of Humanities Social Science (ARJHSS), 04*(10), 62-73.

Munjal, P., & Malarvizhi, P. (2021). Impact of environmental performance on financial performance: empirical Evidence from Indian banking sector. *Journal of Technology Management for Growing Economies, 12*(1), 13

Okafor, O.O., Egbunike, P.A., & Amahalu, N.N. (2022). Determinants of environmental disclosure of quoted oil and gas firms in Nigeria. *International Journal of Management Studies and Social Science Research, 4*(1), 77-88.

Okeke, E.E., Ifurueze, M.S., & Nwadiaro E.O. (2021). Effect of effluent and waste treatment cost disclosure on economic value added of quoted oil and gas firms in Nigeria *International Journal of Sustainable Development, 6*(4), 78-97.

Okudo, C.C., & Amahalu, N.N., & Oshiole, S. (2023). Complementarity of equity and debt capital on profitability of quoted consumer goods firms in Nigeria. *International Journal of Trend in Scientific Research and Development (IJTSRD), 7*(2), 491-501.

Okudo, C.L., Ezechukwu, B.O., & Amahalu, N.N. (2022). Dividend policy and financial performance of quoted brewery firms in Nigeria. *International Journal of Science Academic Research, 03*(10), 4494-4498.

Okudo, C.L; & Amahalu, N.N. (2023). Effect of environmental accounting on profitability of listed oil and gas firms in Nigeria. *International Journal of Advanced Academic Research, 9*(3), 47-61.

Okudo, C.L; & Amahalu, N.N. (2023). Effect of environmental accounting on profitability of listed oil and gas firms in Nigeria. *International Journal of Advanced Academic Research*, *9*(3), 47-61.

Okudo, CL., Amahalu, N.N., Obi, J.C., & Okafor, O.O. (2022). Relevance of accounting ethics in preparing a reliable accounting report of manufacturing firms in Anambra State, Nigeria. *International Journal of Education, Business and Economics Research (IJEBER) 2*(5), 136-149.

Okudo, C.L., Mbonu, C.M., & Amahalu, N.N. (2022). Capital structure and firm value of quoted pharmaceutical firms in Nigeria. *International Journal of Education, Business and Economics Research (IJEBER) 2*(5), 56-65.

Onoja, A.A., Okoye, E.l., & Nwoye, U.J. (2021). Global reporting initiative and sustainability reporting practices: A study of Nigeria and South Africa oil and gas firms. *Research Journal of Management Practice*, *1*(12), 1-25.

Onyali, C.I. & Uchegbu, C. U. (2021) Determinants of corporate environmental performance of oil and gas firms listed on Nigerian stock exchange,*Research Journal of Management Practice, 1(8),* 36-46

Segarra-Moliner, J.R. (2022). How do remuneration committees affect corporate social responsibility disclosure? Empirical Evidence from an International Perspective. *Sustainability*, *14*, 860.

Uzoka, P & Ogheneochuko, E.I. (2021) Effect of environmental disclosure practices on performance of chemical manufacturing companies in Nigeria and South Africa, *International Journal of Management Studies, Business & Entrepreneurship Research, 6(2),* 31-45