



BOARD DIVERSITY AND SUSTAINABILITY DISCLOSURE: EVIDENCE FROM NIGERIA OIL AND GAS INDUSTRY

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ABSTRACT

The aim of this study is to examine the impact of board diversity on sustainability disclosure in Nigeria. Content analysis was utilized on the data of seven (7) oil and gas companies listed on the Nigerian Stock Exchange (NSE) for eight-years period, spanning from 2012 to 2020. The data was analysed using panel corrected standard error regression analysis. The findings showed that board independence, board gender diversity and board nationality positively and significantly influences the sustainability disclosure of listed oil and gas firms. The study concludes that the findings reinforce the general argument of the study that diversity of the board influences the level of sustainability information disclose to stakeholders. In line with the result, the study recommends that governance codes regulators should emphasize on specific minimum characteristics for numbers of independent director on the board. In addition, the management should encourage and place more priority on women and foreign directorships as part of the board of directors as both influences sustainability disclosure.

Keywords: Sustainability disclosure, board diversity, oil and gas firms, Nigeria

1. INTRODUCTION

Sustainability issues have captured the attention of both the public and business organizations in recent years. Sustainability is a global concern, and companies and government agencies around the world are constantly making efforts and trying to figure out the solution for deterioration and preventive measures of sustainability problems. Issues such as emissions, deforestation, exhaustion of resources, quality



and safety of products and employee right among others, have become the subject of increased attention and concerns (Hussainey & Walker 2009).

Sustainability awareness among stakeholders has increased significantly in recent years, particularly in the wake of environmental hazards. The contribution of listed firms to the development and growth of Nigeria economy is high; yet there are many companies that suffer criticism for having created social and environmental problems within their hosting community. Corporations, these days, are facing mounting pressure by various stakeholders to be responsible corporate citizen by managing and providing information on their sustainability practices (Anazonwu, Egbunike, & Gunardi 2018; Ghani *et al.*, 2018).

This increasing concerns about the social and environmental impact of the business operations have prompted corporations to actively account for their sustainability footprints and manage them (Adams & Frost, 2008). In response, businesses have developed environmental and social strategies, adopted green management processes and placed mechanisms in place to track these matters up to the point of strategic direction of companies. As a result, reporting on a company's sustainability practices is becoming more important for firms to demonstrate their dedication to social and environmental concerns.

The practice of corporate sustainability reporting has risen significantly, particularly in developed nations (Klynveld Peat Marwick Goerdeler (KPMG), 2020). However, it is sluggish in many emerging countries and in most of the least developed countries (LDCs), as well as among SMEs. The scenario is similar in Nigeria, particularly since numerous stakeholders are requesting for sustainability related information from companies. Companies in Nigeria, on the other hand, reveal just a limited amount of sustainability information, which is insufficient to allow stakeholders to make meaningful judgments. The reason for this is that sustainability reporting is still in its early stages in Nigeria, as it is in many other emerging countries. In addition, several enactments have been introduced in developed and developing countries to urge companies to implement environmentally and socially friendly strategies and make related disclosures. Nigeria Stock Exchange released its Sustainability Reporting Guidelines in 2018 and firms quoted on the NSE are expected to comply with this guideline in stages from 2019 onwards (NSE, 2018).



As a strategic part of the stakeholder's engagement process, sustainability transparency is inevitably linked to directors who actively oversee and monitor the policies, strategies and reporting decisions of companies (Fernandez-Feijoo, Romero, & Ruiz 2012; Kent & Monem 2008). As major decision makers, the directors are therefore jointly responsible and accountable to a wider range of stakeholders for the sustainability of companies (Rao & Tilt, 2015). As a result, organizations with a more diverse board composition are anticipated to be more attentive in disseminating information about sustainability matters. The success of a board of directors has often been linked to its diversity (Ceres 2019; Kang, Cheng, & Gray 2007).

A board made up mostly of independent directors is considered to be more successful at managing the company's affairs by effectively monitoring and supervising managerial activities. Rupley, Brown, and Marshall (2012) argues that independent director pressurizes organizations to partake in the reporting of sustainability information in order to maintain alignment between organizational decision, societal values and corporate legitimacy. Labelle, Makni, and Francoeur (2010) show that female supervisors are more concerned with socially responsible behavior and are more prone to attempt to reduce the risks associated with ESG.

Board dominated by foreign directors are expected to be more diligent in supervising the firm's activities and decision-making (Otuya & Ofiemun 2018). Due to their broad exposure and experience, they are more cognisant of the need for more accountability on the firm's sustainability effect. Consequently, they are better able to advocate and promote more sustainable information in order to bridge the geographical gap. Sustainability expertise on the board of directors increases the likelihood that a company will have better sustainability initiative and performance (Ceres 2019; Minguel 2017).

Several studies have been conducted on board characteristic and sustainability disclosure (for example, Aman & Bakar, 2018; Dissanayake & Ajward, 2017; Ganesan, Poongan, & Haron, 2019; Hu & Loh, 2018; Janguu, Darus, Mohamed, & Sawani, 2014; Shamil, Shaikh, & Ho, 2014) especially in advance countries with very few studies in developing countries like Nigeria. There are few studies carried out in the Nigeria context that tried to identify the relationship among board characteristic and sustainability reporting though some studies have focused on different dimensions of corporate governance and sustainability reporting. Less attention has been given to how board diversity affects sustainability disclosure.



In addition, most of the existing studies tend to concentrate solely on environmental sustainability aspects, without taking account of economic and social aspects (for example Oba and Fodio (2012)). In addition, despite the importance of nationality and expertise variable for the firm sustainability, the effect of these variables on the sustainability disclosure is still greatly neglected in most literatures. In view of the above development, there is the need for more research on sustainability disclosure in developing countries like Nigeria. Hence, this research will address these gaps by exploring the impact of diversity of company's board of directors that is an important corporate governance mechanism on company's sustainability disclosure practices.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Conceptual Review

According to Uwuigbe et al. (2018) sustainability disclosure is the dissemination of information by a company on the environmental, economic and societal impacts of its daily operations. Sustainability disclosures relate to the statements made by businesses in their financial reports describing the policies of the organization, the commitment and the implementation of sustainability activities. The Global Reporting Initiative (GRI), the leading organisation of sustainability reporting guidance and standards, has described sustainability reporting as "a report published by a company on the economic, environmental and social impacts of its day-to-day operations."

Empirical Review

Board independence and Sustainability Disclosure

A study conducted by Hu and Loh (2018) investigated the impact of board governance on sustainability disclosure using Cross-Sectional data of 462 firms listed in Singapore Stock Exchange. The result findings show that independent directors on the board positively impact the likelihood and quality of sustainability disclosure in Singapore. However, the study suffered some drawbacks as Cross-Sectional data was used. The use of panel study would have effectively validated the findings of the study. Also, Alotaibi, Aburuman and Hussien (2019) examined and discovered that board independence significantly impacts sustainability reporting disclosure at the Jordanian commercial banks. The research utilized content analysis to extract information from financial statements of 13 commercial banks in Jordan covering the period 2008 - 2018.



Furthermore, King'ori, Naibei, Sang and Kipkosgei (2019) discovered that board independence had a significant positive influence on environmental sustainability disclosure in a sample of 56 Nairobi Securities Exchange-listed enterprises. Similarly, Herda, Taylor and Winterbotham (2012) undertook research from the standpoint of legitimacy theory to assess the influence of board independence on the sustainability disclosure practices of the 500 biggest corporations in the United States. The study's results show that corporations with more independent director are more likely to submit standalone sustainability reports.

In a related study, Mahmood, Kouser, Ali, Ahmad and Salman (2018) and Ong & Djajadikerta (2018) also found a significant positive relationship between the board independence and sustainability reporting disclosures. The study was underpinned by the stakeholder theory. Conversely, Aman and Bakar (2018) conduct the study to examine the influence of board directors' characteristics on sustainability reporting of 260 quoted firms in Malaysia and data was collected from the company annual report of 2016 using content analysis. The result indicates that there is no significant influence between board independence and corporate sustainability disclosure among quoted firms in Malaysia.

Board Gender and Sustainability Disclosure

Some studies have been carried out on board gender diversity and sustainability disclosure especially in advance countries with very few and limited studies in developing countries like Nigeria. For example, Bakar, Ghazali, and Ahmad (2019) investigated the impact of board diversity on sustainability reporting in Malaysia from the perspective of Resource Dependency Theory. Data used were extracted from annual report of 100 Malaysia listed companies for the financial year 2016. Linear regression analysis was applied to estimate the relationship and the result revealed that board gender diversity has a significant positive impact on the level of sustainability disclosure.

Similarly, Anazonwu, Egbunike, and Gunardi (2018) and Bello and Abdul-Manaf (2017) both found that board gender diversity significantly enhances the disclosure sustainability information in Nigeria. However, Dissanayake and Ajward (2017) and Bandara, Shasanka, Edirisinghe, Dissanayake, and Rathnasiri (2018) found that board gender has a significant negative impact on the level of sustainability disclosure in Sri Lanka.



However, Adeniyi and Fadipe (2018) discovered that board gender diversity has insignificant impact on sustainability disclosure using sample of 4 brewery manufacturing firms listed on Nigeria Stock exchange. However, the research has some weakness such as inadequate sample and limited period of the study. Similarly, Ganesan, Poongan, and Haron (2019), Mahmood, Kouser, Ali, Ahmad, and Salman (2018) and Mapparessa, Bakry, Totanan, Mile, and Arumsari (2017) that board gender diversity has a no significant impact on sustainability report disclosure in Malaysia, Pakistan and Indonesia respectively. However, the studies were conducted in a region distinctively different from Nigeria economy and policy heterogeneity.

Board Nationality and Sustainability Disclosure

Emmanuel, Uwuigbe, Teddy, Tolulope, and Eyitomi (2018) conducted research on the effect of foreign director on corporate social and environmental disclosure using sample of 17 brewery manufacturing firms listed on Nigeria Stock exchange. The study was grounded on Agency theory. Stepwise Regression analysis was used to estimate the relationship based on data collected from annual report of the sampled firms from 2012 to 2016. After the estimation, it was found that foreign director has significant positive influence on social and environmental disclosure.

In addition, Janggu, Darus, Mohamed, and Sawani (2014) examined the impact of good corporate governance on sustainability disclosure from agency theory perspective. A sample of 100 quoted firms in Malaysia for the year 2010 was used. Board nationality was among the variables investigated. The study used Structural Equation Modelling (SEM) Technique of Partial Least Square. The result showed that foreign members on the board has insignificant impact on sustainability disclosure in Malaysia.

In a related development, Sunday, Fidelis, and Godwin (2019) investigated the impact of board globalizing on sustainability reporting in Nigeria. Data used were extracted from annual report of 10 oil and gas companies listed on NSE covering 2016 to 2018. The study was grounded on information cost and agency theory. Regression analysis was applied in estimating the relationship and the findings revealed that board globalizing has no significant positive association with sustainability disclosure.



Board Expertise and Sustainability Disclosure

Ganesan, Poongan, and Haron (2019) examined the impact of director experience on sustainability disclosure using cross-sectional data of all publicly listed companies in Bursa Malaysia. Data were collected from 2016 annual reports of 120 companies. The study was grounded on Agency and Stewardship theory. The relationship was tested by SEM via Smartpls and the findings revealed that director experience and skills has no significant influence on sustainability disclosure. However, the research has some weakness as the data used were collected for only one year. The use of panel study would have further validated the finding of their study.

However, Janggu, Darus, Mohamed, and Sawani (2014) investigated the impact of good corporate governance on sustainability disclosure from agency theory perspective. A sample of 100 public listed companies in Malaysia for the financial year 2010 was used. Board Professionalism was among the variables examined in relation to sustainability disclosure. The result of SEM technique showed board members with professional qualification will facilitate companies to disclose more sustainability information.

Umukoro, Uwuigbe, Uwuigbe, Adegboye, and Ajetunmobi (2019) examine the relationship between board expertise and sustainability disclosure of firms using a panel data drawn from a sample of 10 Nigeria deposit money bank. Data were collected from annual report of the sampled firms from 2014 to 2016. Ordinary Least Square regression analysis was used in estimating the relationship. After the estimation, board expertise was found not significant influence on sustainability disclosure.

Theoretical Framework

This study utilizes stakeholder theory to drive our inquiry and hypotheses formulation in attempt to comprehend the factors influencing sustainability disclosure. The theory is regarded as an essential component of the literature on sustainability disclosure because it offers a more effective approach of connecting firms with their varied stakeholders. The theory assumes a contractual connection between firms and their stakeholder (Freeman, 1984). Companies have a wide range of responsibilities to diverse stakeholders. As a result, disagreements among multiple stakeholders are likely to have a detrimental influence on a company's ability to operate properly (Becker & Potter, 2002). According to stakeholder theory,



businesses should act in a socially responsible way in order to serve the interests of various stakeholders.

Various stakeholders are putting pressure on the need for sustainability disclosure as a consequence of their worry about corporations' sustainability responsibility, as well as the costs and consequences that come with them (Prado-Lorenzo et al., 2009a; Elijido-ten, 2004). Companies participate in and account for sustainability-related concerns either in annual report or in separate sustainability report, to demonstrate to stakeholder that their expectations are being met (Prado-Lorenzo et al., 2009a, 2009b).

The stakeholder theory is an important paradigm for understanding the link between board governance and company reports on its environmental performance. The theory asserts that the board is accountable for monitoring management's sustainable policies and strategies. As a result, board governance processes, which are an important part of corporate governance, have the potential to improve firms' sustainability practices (Hussain et al. 2016). As a result, an efficient board that is concerned in the interests of all stakeholders will be able to transmit information to the group of stakeholders telling them how well-managed their firm is and that the interests of stakeholders are prioritised (Michelon & Parbonetti, 2012).

The proportion of independent directors on a company's board is seen as a crucial factor influencing overall corporate transparency (Ho & Wong, 2001). Independent directors are more concerned with corporate sustainability responsibilities (Webb 2004). Additionally, from a stakeholder theory perspective, the presence of females on corporate boardrooms demonstrates to firms' stakeholders that the corporation is socially responsible and also pay attention to the concerns of varied stakeholders (Bear, Rahman, & Post, 2010).

Thus, the following hypotheses are proposed in null form:

H1 Board independence has no significant impact on sustainability disclosure

H2 Board gender diversity has no significant impact on sustainability disclosure

H3 Board expertise has no significant impact on sustainability disclosure.

H4 Board nationality has no significant impact on sustainability disclosure.



3. METHODOLOGY

Correlational research design was adopted for this study as it seeks to investigate the impact of board diversity on sustainability disclosure. The research population comprise of the entire quoted oil and gas companies on the NSE as of Dec 31, 2020. Out of the 11 mentioned only 7 have annual report and necessary information available from 2012 to 2020. Therefore, this study utilized the available 7 firms that have their annual reports and necessary information at the time of conducting the research. The data were gathered from the annual reports of the selected firms.

Sustainability Disclosure Measurement Process

This study will apply content analysis to collect data by reviewing company annual report and separate sustainability report. Sustainability disclosure was measured in three steps. First, a checklist has been constructed based on the Global Reporting Initiatives (GRI) G4 Sustainability Reporting Guidelines. Secondly, a coding system based on '0' and '1' will be used to determine the quantity disclosed against the checklist for each of the companies. If an item is disclosed based on the checklist, '1' is assigned otherwise '0'. Finally, the sustainability disclosure computed using a simple un-weighted average formula. Sustainability disclosure index of a firm is calculated using the equation below:

$$SD = \sum \frac{SDS}{MX SDS}$$

Where: -

SD = Sustainability Disclosure,

SDS = Sustainability Disclosure Score,

MX DS = Maximum Sustainability disclosure scores

Model Specification

To accomplish the study's purpose, a multivariate regression model is used to show how board diversity influences sustainability disclosure. The model is written in functional form as follows:

$$SUSDIS = f(\text{Board Diversity})\text{-----}(i)$$



SUSDIS = f (Bind, Bgen, Bexpt, Bnat)----- (ii)

This can be written in an explicit econometric form as:

$$SD_{it} = \beta_0 + \beta_1 BIND_{it} + \beta_2 BGEN_{it} + \beta_3 BEXPT_{it} + \beta_4 BNAT_{it} + \beta_5 SIZ_{it} + \beta_6 PROF_{it} + \epsilon_{it}$$

Where:

- SD = Sustainability Disclosure;
- β_0 = Intercept;
- β_1 to β_4 = Coefficient of the independent variables.
- β_5 to β_6 = Coefficient of the control variables.
- ϵ = Error term
- it = Subscript for Panel Data
- BIND = Board Independence
- BGEN =Board Gender Diversity
- BEXPT = Board Expertise
- BNAT_i =Board Nationality
- SIZ = Size
- PROF = Profitability

Table 1
Variables of the Study and their Measurement

Operational Definition	Measurement	Sources
Sustainability Disclosure	Based on GRI G4 Sustainability Reporting checklist. 1 represents disclosure and 0 non-disclosure. Finally, the total items disclosed divided by total possible items based on GRI G4 checklist	(Bello & Abdul-Manaf 2017)
Board independence	Proportion of independent non-executive directors to total directors	(Shamil et al. 2014)



Board Diversity	Gender	Proportion of female directors to total directors	(Adeniyi & Fadipe 2018)
Board Expertise		Proportion of director with professional expertise to total directors	(Haladu, 2017)
Board Nationality		Proportion of foreign directors to total directors	(Anazonwu et al. 2018)
Firm Size		Company's year end total assets	(Haladu, 2017)
Profitability		Profit after tax to total asset	(Akbas, 2016).

Source: Compiled by the Author from previous studies, 2022

4. RESULTS AND DISCUSSION

Descriptive Statistics

The descriptive statistic table shows information on the mean, standard deviation, maximum and minimum for the explanatory and explained variables. Table 2 contains the summary of descriptive statistics.

Table 2
Descriptive Statistics

Variable	Obs	Mean	Std.Dev.	Min	Max
SUSDIS	63	.303	.127	.029	.514
BIND	63	.059	.113	0	.5
BGEN	63	.143	.1	0	.375
BPROF	63	.139	.082	0	.375
BNAT	63	.203	.208	0	.636
FSIZE	63	67,012	36,454	15,606	147,237
PROF	63	.032	.259	-.716	1.763

Source: Researcher's Computation using STATA 13.1

The mean of sustainability disclosure (0.303) presented in Table 1, indicates that the mean sustainability disclosure is 30.3%. It represents the fact that the average sustainability disclosure over the investigation duration was deemed to be low. Furthermore, the highest average disclosure is 51.4% while the lowest average disclosure quality is 2.9%, showing a wide range of sustainability disclosure activities across the sample firms. The standard variation of 0.127 is not too far from



the average, which suggests that there is moderate variation within the companies sampled.

The average board independence is 5.9% implying that, most of the sampled firms have few independent directors on their board. The standard deviation of 11.3% shows moderate variation in proportion of independent directors on the board of listed oil and gas firms. BIND has min and max values of 0 and 0.5 respectively. This suggests that certain companies have failed to completely comply with the 2012 corporate governance code, which required companies to have at least one independent director.

The average percentage of female directors, to the total number of directors is 14.3%. Implying that, most of the listed oil and gas firms have few female directors on their boards. The standard deviation of 10% is not too far from the average, which suggests that there is moderate variation within the companies sampled. Board gender has min and max values of 0 and 37.5 respectively. The average percentage of directors with expertise, to the total number of directors is 13.9%. Implying that, most of the listed oil and gas firms have few directors with financial professional expertise on their boards. The min and max values are 0 and 37.5 respectively. The standard deviation of 0.80 is not too far from the average, which suggests that there is moderate variation within the companies sampled.

The average percentage of foreign director to total number of directors is 20.3%. Furthermore, the highest and lowest value are 63.6% and 0% respectively. The standard deviation of 20.8 is not too far from the average, which suggests that there is moderate variation within the companies sampled. The mean of profitability as indicated that average return on asset is 3.2% approximately, while the standard deviation of 0.259 indicates high variability of return on total asset across the sampled companies. Finally, the firm size has a mean value of N67 millions with min asset value of N15.6 billion and max value own by firm in terms of size is N147 billion.



Table 3
Correlation Matrix

VARIABLES	SUSDIS	BIND	BGEN	BPROF	BNAT	SIZE	ROA
SUSDIS	1.000						
BIND	0.230	1.000					
BGEN	0.382	0.316	1.000				
BPROF	0.075	0.178	0.324	1.000			
BNAT	0.108	-0.199	-0.159	-0.239	1.000		
SIZE	0.042	-0.118	-0.348	-0.225	0.199	1.000	
PROF	0.081	0.094	0.087	0.011	0.198	0.030	1.000

Source: Researcher’s Computation using STATA 13.1

Table 3 presents the result of Pearson correlation which tests for the magnitude of the Table 3, shows that sustainability disclosure has a positive relationship with all the explanatory variables (board independence, board gender, board expertise and board nationality). This means that all the independent variable goes in the same direction with the sustainability disclosure. With regard the bivariate analysis, Gujarati (2004) argues that correlation coefficient above 0.80 is considered excessive. The result above shows that none of the correlation coefficient between independent variables are above 0.80 suggesting absence of harmful multicollinearity. This research used the Variance Inflation Factor (VIF) test to determine the extent of collinearity in the model, which estimates the variance factor for the independent variables. The mean VIF is 1.24, showing the lack of multicollinearity across all the study's explanatory variables (Hair et al. 2014).

Table 4
Panel Corrected Standard Error Regression

susdis	Coef.	St.Err.	t-value	p-value
bind	1.215	0.5396	2.25	0.024
bgen	3.772	1.0270	3.67	0.000
bprof	-0.102	0.7535	-0.14	0.892
bnat	0.733	0.3702	1.98	0.048
size	0.012	0.0066	1.82	0.069
prof	-0.013	0.2252	-0.06	0.955
Constant	-2.215	0.2138	-10.36	0.000



Number of obs	63.000	Hausman	0.000
R-squared	0.2213	Hetest	0.000
Wald Chi	29.02	Mean VIF	1.24
Prob > Chi	0.0001	Auto Correlation	0.000

Source: Researcher's Computation using STATA 13.1

Diagnostic Test

In view that the dataset is panel nature, the paper runs both fixed effect and random effect models. To enable selection of the best model for analysis Hausman specification test was carried out. The test was significant with prob-value of 0.000 which implies that the fixed effect model is suitable for analysis. Also, the result of the Wooldridge test reveals presence of auto and serial correlation in the model as the prob-chi (0.000) is statistically significant. Modified Wald group wise test for heteroskedasticity reveal a p-value of 0.000, implying presence of heteroskedasticity. This suggests that fixed effect regression will not be suitable for this study. To overcome the shortcomings of fixed effect regression in the presence of heteroskedasticity therefore, this study used panel corrected standard error (PCSE) regression. When estimating standard errors, PCSE preserves observation weighting for autocorrelation but utilizes a sandwich estimator to incorporate cross-sectional dependencies (Mantobaye, William & Robert, 2017).

Interpretation of the Model

$$\text{SUSDISit} = -2.215 + 1.215\text{BINDit} + 3.772\text{BGENit} - 0.102\text{BEXPT} + 0.733\text{BNAT} + 0.012\text{SIZE} - 0.013\text{PROFit}$$

Table 4 displays the outcome of the PCSE Regression, which was reported after all necessary tests were conducted. The R-squared is 0.2213 indicating that the explanatory variables jointly explained 22.13% of sustainability disclosure of quoted oil and gas companies in Nigeria. The remaining 77.87% was attributable to other variables measured not capture in the model. The prob-chi of 0.0001 is significant at 1% which indicates that the model is of good fit. Furthermore, it implies that board diversity variables examined reliably predict sustainability disclosure.



Interpretation and Discussion of Finding

According to Table 4, there is a significant positive relationship between board independence and sustainability disclosure, as evidenced by the coefficient of 1.215 and p-value of 0.024. This implies that increase in board independence improves sustainability disclosure. This indicates independent directors as a key monitoring device that impacts managerial decisions on reporting of sustainability information. The result is in line with stakeholder's theory and the findings of Bello and Abdul-Manaf (2017) and Hu and Loh (2018). Based on this finding, the study rejects the null hypothesis that board independence has no significant impact on sustainability disclosure of oil and gas companies in Nigeria.

The findings also show that board gender diversity has a positive and statistically significant influence on sustainability disclosure of listed oil and gas companies in Nigeria, evidenced by coefficient of 3.772 and p-value of 0.000. As a result, increasing proportion of female director on the board will enhance board performance and reporting of sustainability information. This is because female directors are more concerned with and sympathetic to environmental concerns. This conclusion is also consistent with stakeholder theory. The result is in line with the findings of Bakar, et al. (2019) and Aman and Bakar (2018), in contrasts with result of Bandara, *et al.* (2018) and Ganesan, et al. (2019). Based on this finding, the study rejects the null hypothesis which stated that board gender has no significant effect on sustainability disclosure of oil and gas firms in Nigeria.

Board expertise variable has a coefficient value of -0.102 and probability value of 0.892 which is insignificant. This indicates that board expertise has insignificant impact on sustainability disclosure. This means that the percentage of director having financial expertise has no influence on the dissemination of sustainability information. The result is in line with that of Ganesan, et al. (2019) and Umukoro, et al. (2019). The results of this research contradict those of Haladu and Salim (2016) and Janggu et al. (2014), who claimed that board expertise had a significant impact on reporting of sustainability information. Based on this finding, the study fails to reject the null hypothesis that board expertise has no significant effect on sustainability disclosure of oil and gas firms in Nigeria.

The result also shows that board nationality has a positive and statistically significant influence on sustainability disclosure of listed oil and gas companies in Nigeria, evidenced by coefficient of 0.733 and p-value of 0.048 which is significant at 5%.



By implication, it means increase in proportion of foreign members on the board has positive influence on disclosure of sustainability information. This is because foreign directors are more concerned with social and environmental concerns and are keen to share their expertise with indigenous developing nations such as Nigeria. This finding is in line with agency theory's proposition as well as the findings of Ahmad and Nosakhare (2015), Emmanuel et al. (2018), and Oba and Fodio (2012), This finding of the study is in contrast with Anazonwu, et al. (2018), Sunday, et al. (2019) and Jangu, et al. (2014). Based on this finding, the study rejects the null hypothesis that board nationality has no significant effect on sustainability disclosure of oil and gas firms in Nigeria.

5. CONCLUSION AND RECOMMENDATIONS

The study examines the effect of board diversity on the sustainability disclosure of listed oil and gas firms in Nigeria. The study raised issues around the incidence of sustainability disclosure oil and gas industry. Secondary source of data was obtained via the yearly reports of the 7 quoted oil and gas companies in Nigeria covering 2012 to 2020. Board diversity examined were board independence, board gender, board expertise and board nationality. Sustainability disclosure was measured based on GRI G4 Sustainability Reporting checklist. Findings from the study showed that board independence, board gender diversity as well as board nationality are found to have positive and significant influence on sustainability disclosure of listed oil and gas companies. This indicates that increase in the aforementioned will lead to increase in sustainability disclosure and vice-versa. Board expertise however has an insignificant relationship with sustainability disclosure in Nigeria.

This study adds to the increasing body of knowledge on sustainability disclosure and gives more understanding on its determinants. Governance codes regulators emphasize or increase specific minimum characteristics for independence of board as it makes the board to be more independent in their decision which improves the level of sustainability information reported to the stakeholders. The management should encourage and place more priority on women and foreigner as part of the boardroom as the findings found that female director and foreign director have more concern and show more sympathy towards sustainability issues. Despite the contributions of the study, it has some limitations like other empirical studies. The study suffered some limitations among which it focus on only quoted oil and gas firms. In addition, the four explanatory variables selected in the study may not fully represent all the determinants of sustainability disclosure.



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