



Gusau Journal of Accounting and Finance (GUJAF)

Vol. 2 Issue 3, April, 2021 ISSN: 2756-665X

A Publication of
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EFFECT OF BOARD CHARACTERISTICS ON SOCIAL AND ENVIRONMENTAL DISCLOSURE OF LISTED ENVIRONMENTALLY SENSITIVE FIRMS IN NIGERIA

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Abstract

Social and Environmental Disclosure has been at its adoption phase in Nigeria despite the trend of disclosure practices by firms around the world. As a step towards addressing this shortcoming, the paper examined Board characteristics and their effects on Social and Environmental Disclosure in Nigeria. Mixed theoretical approach was deployed in explaining relationship between board characteristics and Social and Environmental Disclosure. Companies were graded on their Social and Environmental Disclosure performance using the Global Reporting Initiative (GRI) Index. For a period of seven years (2012 - 2018), data were obtained from the published Annual Reports of fifty (50) selected environmentally sensitive enterprises listed on the website of the Nigerian Exchange Group as of 2019. Panel corrected Standard Error (PCSE) regression was found appropriate in testing the hypotheses. Board size, board expertise, board independence and board gender diversity were found to be positive and significant to Social and Environmental Disclosure. The study concluded that Board Characteristics impact Social and Environmental Disclosure and further recommends that listed firms should comply adequately with corporate governance requirements related to Board Characteristics to ensure that Social and Environmental Disclosure is not compromised.

Keywords: Board Characteristics, Social and Environmental Disclosure, Global Reporting Initiative

1. Introduction

The inclusion of Social and Environmental Information (SEI) among the financial statements of firms trading in Nigeria has not been given considerable adherence despite the rate of awareness globally and the move by multinationals to protect social and environmental values (Umukoro et al., 2019). Amaechi and Nwankwoeke (2017) provided empirical evidence that businesses today face significant Social

and Environmental Disclosure (SED) challenges that pose risks to their potentials to achieve sustainable growth. There is need to treat SED as fundamentals rather than alternative data in published annual reports (Kaya, 2016). Aside from the Nigerian Stock Exchange (NSE) that charged listed firms in Nigeria to make known their social and environmental commitments alongside their financials in their published annual reports, some regulatory bodies were also established to ensure compliance with firm's disclosure of SEI. These regulatory bodies include; "National Environmental Standards and Regulation Enforcement Agency (NESREA), National Oil Spill Detection and Response Agency, Federal Ministry of Environment, Directorate of Petroleum Resources (DPR), Nigerian Nuclear Regulatory Authority and Federal Ministry of Water Resources" (Ejide et al., 2017). This provides evidence of poor compliance by the firms and is not encouraging (Odera et al., 2016).

(Koji et al., 2020) concludes in their study that to achieve a better Nigeria and attainment of greater heights and better rating of firms trading on the floor of NSE alongside their international competitors operating in developed countries, there is need to assess the performance of the country's corporate governance components aside from the fact that SEI is treated as alternative data. Hence, the study set out to examine Board Characteristics and its influence on SED among listed environmental sensitive firms whose activities impact adversely more on the environment through effluents and emissions (Haladu, 2016) in Nigeria. It was observed comparatively from prior studies that less research has been done in this area especially on Board Characteristics and SED. Board Characteristics is however proxy by "Board size, Board Independence, Board gender diversity, Board expertise and Demographic diversity in terms of the presence of Foreign directors on the board". As a result, the goal of this research is to determine the relationship between the listed variables and the SED practices in Nigeria. This paper is prearranged as follows. Section one, provided information on the introductory part of the paper, section two relates the literature review and hypotheses development. Research methods are expounded in section three. Results were stated and discussed in section four. Conclusions and recommendations were dealt with in section five.

2. Literature Review and Hypotheses Development

Various Scholars have made efforts to explore the concept of SED independently. Bansal et al. (2018); Beji et al. (2020); Dah and Jizi (2018); Handajani et al. (2014) based their studies on Social disclosure while Aliyu (2019); Giannarakis et al. (2019); Gulzar et al. (2019); Masud et al. (2018); Oba and Fodio (2012); Ofoegbu and Odoemelam (2018); Rabi (2019); Uwuigbe and Jimoh (2012) their study on environmental disclosure. The concept of SED is however interwoven; it could be explained separately thus; Social disclosure implies the inclusion of firm's commitment to social activities in their published financial reports. Social information as identified by the GRI includes details of records such as; "Safety arrangements, Health arrangements, Training arrangements, Number of employees, Donations made to community or community involvement, Donations made to community or community involvement, Labour Rights, Pension Schemes, Policies on company's remuneration packages, Welfare programmes for staff and Sponsoring education and scholarship for students" (Grzebieluckas et al., 2012).

Environmental Disclosure correspondingly, is the reporting of firm's commitment to environmental issues in its published financial statements which could be available as a standalone report as it is obtainable among firms operating in developed nations such as Europe and America. Environmental information as identified by GRI includes; "Environmental accounting policy/strategy and principles, Environmental accounting objectives for the period,

Extensive discussion on environmental accounting, Environmental Financial Disclosure, Environmental Performance Indicators, Contribution in the environmental protection program, Conservation of natural resources, Using equipment which protects the environment, Research and development for the environment and Energy saving devices” (Ofoegbu & Odoemelam, 2018; Okaro & Okafor, 2016). The consideration of both social and environmental information as a whole as though they are a single concept has been made easier using all the indices as specified by GRI and other related measuring indices. Anazonwu et al. (2018); Cucari et al. (2017); Emmanuel et al. (2018); Eriabie and Odia, (2018) considered both social and environmental disclosure in their studies as a single concept.

Firms whose operations generate pollution to the environment are classified as environmentally sensitive firms. Haladu (2016); Lathabhavan (2020); Yahaya (2018); Simranjeet and Harwinder (2015); Uwuigbe and Jimoh (2012) in their studies concentrated on environmentally sensitive firms. 6 of the firms listed on the floor of NSE were pointed out to be environmentally insensitive or partially sensitive to the social and environmental damages resulting from their operations. These firms are in oil and gas, agriculture, construction/real estate, healthcare, consumer good, industrial good and natural resources sector.

Board characteristics, implies individual distinct characteristics (personality dynamics) of the board of directors as it impact the disclosure of SEI. Benjamin, Okpanachi, and Muhammad (2017); Haladu and Salim (2016); Oba and Fodio (2012); Ofoegbu and Odoemelam (2018) Rabi (2019) and Soliman (2013) in their studies concentrated on board characteristics in place of board characteristics. The determinant variables adopted in measuring board characteristics are BS, BI, BD, BE and FD.

Handajani et al. (2014) in their study carried out on Indonesian firms investigated the connection between BS and SED. Conclusion from their study revealed “a positive and significant relationship between BS and SED amongst listed firms operating at Indonesia”. Dah and Jizi (2018) discovered in their study that “a smaller BS is more effective in promoting firms SED agenda”. Their study was anchored on legitimacy theory with the context focused on companies’ operating majorly in the United Kingdom. Rabi (2019) examined BS as one of the proxy in measuring board characteristics in the study carried out at Jordan, their findings revealed “a positive relationship on BS and level of SED”. Similarly, Gulzar et al. (2019); Masud et al. (2018); Uwuigbe, Egbide, and Ayokunle (2011) also revealed “a positive and significant relationship between BS and SED”.

Nigerian experience, on the other hand, demonstrated the opposite. Aliyu (2019) investigated the impact of BS on SED, and his findings found that “there is no significant relationship between BS and SED”. This relates to the study of Oba and Fodio (2012) which was carried out in the same context “Nigeria” their study affirms “a negative relationship between BS and SED”. The study of Emmanuel et al. (2018) also in Nigeria however contradicts the submission of Aliyu (2019); Rabi (2019) as Emmanuel et al. (2018) found “a positive and significant relationship between BS and SED in Nigeria”. Accordingly, the following was formulated;

H0₁: Board size has no significant impact on SED practices of listed environmental sensitive firms in Nigeria

Dah and Jizi (2018) carried out a research on BI and efficacy of SED, findings from their study, indicates that “BI positively influences SED and it also improves firm performance”. Their

research was restricted to the United Kingdom. Rabi (2019) found that there is “no statistically significant association between board independence and SED”. Jordan has a poor level of SED compliance when compared to other developed countries. Bansal, Lopez-Perez, and Rodriguez-ariza (2018) conducted a global study on board independence and SED, focusing on companies in America, Europe, the Middle East, Africa, and Asia. According to the study's findings, "there is a negative correlation between board independence and SED". In a different study conducted in America on the relationship between BI and SED, Giannarakis et al. (2019) discovered that “high level of independence promotes the choice of the board to adopt SED strategies”. This is similar to findings from the study of Cucari, Falco, and Orlando (2017) in Italy but however contradicts the findings of Handajani et al. (2014) in their study carried out at Indonesia. They found “no significant effect of BI on SED”.

Beji et al. (2020); Gulzar et al. (2019); Masud et al. (2018) found “a positive and significant relationship between BI and SED”. Herda and Taylor (2012) conducted an exploratory study which examines whether BI affects SED of firms in United States. According to his findings, companies with a higher ratio of independent board members are more likely to produce high-quality SEI. In Nigeria, the study of Aliyu (2019); Anazonwu et al. (2018) revealed that BI positively influences SED amongst listed firms operating in the country. As a result, the following was formulated;

H0₂: Board independence has no significant impact on SED practices of listed environmental sensitive firms in Nigeria

Cucari et al. (2017) conducted a study on gender diversity in the board of directors and SED, and their findings suggested that gender diversity among the board's directors has a beneficial impact on SED. Handajani et al. (2014) revealed contrary findings from Indonesian experience on their study on BD on SED. Their study showed “a negative but significant relationship between board gender diversity and SED”. Bravo(2018) analyses influence of BD on the disclosure behavior of firms on social and environmental activities. Findings from their study revealed that BD positively influences the disclosure of SEI. Emmanuel et al. (2018) examined BD and corporate SED with concentration on manufacturing firms in Nigeria. Their study found a link between BD and SED that is both positive and significant. This is in line with Cucari et al. (2017)'s research in Italy, as well as Beji et al. (2020); Gulzar et al (2019). Therefore, the hypothesis was formulated as;

H0₃: Board gender diversity has no significant impact on SED practices of listed environmental sensitive firms in Nigeria

Umukoro et al. (2019) look into the impact of environmentally sensitive board members who are qualified or knowledgeable on SED. Despite the fact that the majority of executive and non-executive directors considered for the study had little knowledge with environmental issues, the survey found that BE have a total influence on the SED. However, the research is limited to companies in Nigeria's financial industry. In a study on board characteristics and SED in Nigeria, Haladu and Salim (2016) used board expertise as one of the proxies for measuring board characteristics. Their findings revealed a positive significant relationship between board expertise and SED, implying that the more environmental experts on the board, the more social and environmental information is disclosed, and the lower the agency costs. As a consequence, the following was stated;

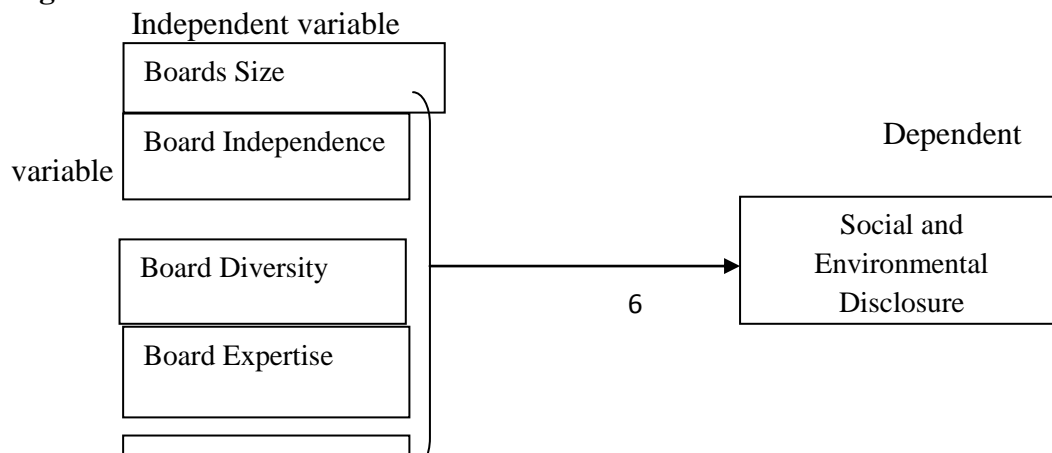
H0₄: Board expertise has no significant impact on SED practices of listed environmental sensitive firms in Nigeria.

In their study on corporate board demographic diversity and sustainability reporting, Anazonwu, Egbunike, and Gunardi (2018) discovered that the presence of non-Nigerian members on the board has no positive or substantial impact on the firm's ability to disclose SEI. In a study on board characteristics and SED quality in Nigeria, Rabi (2019) discovered a counter-claim. The study's findings demonstrated that BD, through the presence of foreign directors on the board, has an impact on a company's ability to disclose information about its social and environmental obligations. Emmanuel et al. (2018) examined FD as it influenced SED among firms operating in Nigeria. The findings revealed a positive significant relationship between the presence of foreign directors on the board of directors and the SED attitude of Nigerian companies. The results are comparable to those of Beji et al. (2020); Masud et al. (2020). (2018). As a result, the following was put to the test.

H0₅: Board Demographic diversity has no significant impact on SED practices of listed environmental sensitive firms in Nigeria.

Figure 1 depicts the relationship between proxies for measuring influence of board characteristics on SED. The impact of board size (BS) on SED was investigated in this study (Hypothesis 1). Furthermore, the study looked into the effect of Board Independence (BI) on SED (Hypothesis 2). Hypothesis 3 looked at the impact of board gender diversity (BD) on SED, as well as the impact of board expertise (BE) on SED (Hypothesis 4). Finally, the effect of board demographic diversity (FD) on SED was assessed (Hypothetical).

Figure 1: Board characteristics and SED



In order to explain the board characteristics and SED, the study used a hybrid theoretical approach.

Agency Theory: Jensen and Meckling (1976) explain “the relationship between the owners (shareholders) and management”. Board is charged with the responsibilities of monitoring environmental policies of top management, strategy, investment and reporting decision in a firm. However, the management may be unenthusiastic to disclose information regarding their commitment to SED in their published financial report.

Resource Dependency Theory: This theory was propounded by Pfeffer (1981). The theory explained that, “many policies and regulations needs to be considered in making decisions regarding firms short and long term environmental strategies”. Consequently, board should consist of experienced directors who will be charged with the responsibilities of giving advice and suggestions on records to be made available to stakeholders to achieve firm’s success (Masud et al., 2018).

Legitimacy Theory: This was propounded by Dowling and Pfeffer (1975). The theory explains that “firms and society closely work for each other and this relationship is based on the notation of a social contract”. Hence firms are under the obligation of reporting their social and environmental commitments to stakeholders.

3. Methodology

For this analysis, a quantitative research methodology was used. Data was collected from the yearly reports of the study's population of seventy-four (74) designated environmentally sensitive firms as of 2019. Purposive random sampling was used to select fifty (50) companies for this study. The data was collected during a seven-year period, from 2012 to 2018, taking into account the time of increased stakeholder participation. Panel Corrected Standard Error (PCSE) was used in estimating the regression for testing the hypotheses. The following model was considered to test our hypotheses for the study;

$$SED_{it} = \beta_0 + \beta_1 BS_{it} + \beta_2 BI_{it} + \beta_3 BD_{it} + \beta_4 BE_{it} + \beta_4 FD_{it} + \epsilon_{it}$$

Where;

SED_{it} , =, Social and Environmental Disclosure

BS_{it} , =, Board size

BI_{it} , =, Board independence

BD_{it} , =, Board gender diversity

BE_{it}, =, Board expertise

FD_{it}, =, Board demographical diversity and

ε_{it} , =, Variables not captured in the model.

Table 1: Variable measurement and sources

Variables	Measurements	Sources
SED	Global Reporting Initiative- Based Scoring Checklist	Maury (2017); Ofoegbu and Megbulu (2016); Ofoegbu and Odoemelam (2018); Onipe (2018).
BS	Total number of directors on the board	Aliyu (2019); Masud et al. (2018); Rabi (2019); Uwuigbe, Egbide, et al. (2011).
BI	Number of non-executive directors divided by total number of directors on the board	Giannarakis et al. (2019); Handajani et al. (2014); Nawawi and Saiful (2017); Zubeltzu-jaka and Ortas (2019).
BD	Proportion of women directors on the board to total number of directors on the board	Bansal et al. (2018); Bravo (2018); Cucari et al. (2017); Gulzar et al. (2019).
BE	Total number of non-executive members with experience in environmental issues	Haladu (2016); Umukoro et al. (2019)
FD	Number of non-Nigerians on the board	Anazonwu et al. (2018); Beji et al. (2020); Emmanuel et al. (2018); Oba and Fodio (2012).

Source: Researchers’ compilation (2020)

Prior research had used the Global Reporting Initiative framework to develop measurement items for SED (Maury, 2017; Odoemelam & Okafor, 2018; Ofoegbu & Odoemelam, 2018). The social aspect focused on ten (10) operational measures and the environmental sub group also focused on ten (10) operational measures and this gives a total of twenty (20) operational measures. A score of “1” was assigned to all operational measures that were reported, and a score of “0” was assigned to those that were not. This was in line with the methods used in previous annual report disclosure studies (Lipunga, 2015; Oboh, 2018; Okaro & Okafor, 2016; Udofia, 2019). The weighted average of the scores for each year (2012–2018) was then computed to arrive at a single score for the variable (Table 3.2).

Table 2: GRI- Based Scoring Checklist	
	“Social Responsibility Disclosure
1	Safety arrangements
2	Health arrangements
3	Training arrangements
4	No of employees
5	Donations made to community or community involvement
6	Labour Rights
7	Pension Schemes
8	Policies on company’s remuneration packages
9	Welfare programmes for staff
10	Sponsoring education and scholarship for students
	Environmental Accounting Disclosure

11	Environmental accounting policy/strategy and principles
12	Environmental accounting objectives for the period
13	Extensive discussion on environmental accounting
14	Environmental Financial Disclosure
15	Environmental Performance Indicators
16	Contribution in the environmental protection program
17	Conservation of natural resources
18	Using equipment which protects the environment
19	Research and development for the environment
20	Energy serving devices”

Source: Adopted from Odoemelum and

Okafor (2018)

4. Results and Discussions

This part includes descriptive analysis as well as residual and diagnostic test results.

Table 3: Descriptive Statistics

Variable	Obs	Mean	Std.Dev.	Min	Max
SED	350	.69	.228	.05	.95
BS	350	8.563	2.457	3	17
BI	350	.077	.124	0	.556
BD	350	.126	.122	0	.5
BE	350	.106	.133	0	.6
FD	350	.583	.5	0	2

Source: STATA 13 Output, 2020

The descriptive statistics of explanatory and explained factors for this study are shown in Table 3 which indicates the extent of average SED of the sample firms to be 69.0% with a minimum and maximum of 5.0% and 95.0% respectively. The results also, reveal that standard deviation of 0.228 (22.8%) indicates low variability across the sampled firms. The average BS as showed in Table 3 is 8.56. The standard deviation of 2.45 indicates that the number of directors on the board of the listed environmental sensitive enterprises in Nigeria is not evenly distributed. The result further revealed that the minimum number of the board obtainable is 3 and maximum number of the board is 17. The minimum BS of 3 simply means that from among the sampled firms, the firm with the smallest members on its board within the period covered in this study had 3 directors on its board in an accounting year; and the firm was Rak Plc in the year 2012 to 2013. In addition, this can be said to be against the requirement of the code of corporate governance, which provides for 5 board members as minimum. However, International Breweries plc had the highest BS of 17 directors, which happened to be in the year 2018.

Within the study period, the average BI among the sampled listed environmental sensitive enterprises in Nigeria was 7.7%, with a standard deviation of around 12.4%. The standard deviation of 12.4 percent indicates that the degree of BI of the analysed firms has varied significantly over time. A minimal value of 0.0% indicates that the board of directors with the least level of independence had 0.0% of its board members be independent non-executive directors among the sampled firms. This implies that some firms are yet to fully comply with corporate code of 2012, which stipulated that firms should have at least two independent non-

executive directors. However, Presco Plc had the highest level of independence of 55.6% in the year 2017.

The average level of BD across the listed environmental sensitive firms is 12.6%, while deviation value of approximately 12.2% indicates that the data is moderately skewed away from the mean. The minimum and maximum BD of the listed environmental sensitive firms in Nigeria for the period covered were 0 and 0.5 respectively. A minimum value of 0 implies that some firms had no women as members of the board. However, Standard UPDC had the highest number of women included in its board.

The average level of BE across the listed environmental sensitive firms is 10.6%, while deviation value of 13.3% indicates that there is a high deviation of the data from the mean. The minimum and maximum BE of the listed environmental sensitive firms in Nigeria for the period covered were 0 and 0.6 respectively. The minimum value of 0 implies that some firms had no financial expertise as members of the board. However, International Breweries had the highest number of environmental experts included in its board. This value shows that approximately 60% of its board members have experience on environmental issues.

Finally, the mean value of FD across the listed environmental sensitive firms is 58.3%, A deviation value of 50.0% shows that the data is moderately deviated from the mean. For the period studied, the minimum and highest board demographic diversity of listed sensitive enterprises in Nigeria was 0% and 60%, respectively.

Table 4: Correlation matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	VIF
(1) SED	1.000						
(2) BS	0.174*	1.000					1.20
	0.001						
(3) BI	0.320*	0.254*	1.000				1.25
	0.000	0.000					
(4) BD	0.352*	-0.084	0.181*	1.000			1.08
	0.000	0.117	0.001				
(5) BE	0.285*	0.042	0.239*	0.032	1.000		1.08
	0.000	0.433	0.000	0.550			
(6) FD	0.228*	0.367*	0.302*	-0.119*	0.190*	1.000	1.27
	0.000	0.000	0.000	0.026	0.000		

Source: STATA 13 Output, 2020

The correlation matrix was generated to confirm the relationship between the explained and explanatory variables, as shown in table 4. All explanatory factors (BS, BI, BD, BE, and FD) are positively connected with SED of the listed environmental sensitive enterprises in Nigeria. The conclusion is that the variables above move in the same direction as the SED. The table shows that there is a positive correlation between BI, BE, FD, and BS in terms of relationship among the independent variables. BD, on the other hand, has a negative connection with BS. BD, BE, FD and BI were found to be positively related. The results also revealed a positive relationship between BE and BD.

However, negative relationship exists between BD and FD. Finally, the result revealed that there is positive relationship between BE and FD. On the other hand, the relationship among the independent variables isn't strong enough to cause problem of multicollinearity. To consider the

collinearity issues, this study conducted Variance Inflation Factor (VIF) test, the results of which provide evidence of the absence of collinearity. This is because the VIF test results range from a minimum of 1.08 to a maximum of 1.20, all of which are less than 5, indicating that there is absence of collinearity among the independents variables.

Table 5: Panel Corrected Standard Error (PCSE) Result

SED	Coef.	St.Err.	Z-value	p-value	Sig
BS	0.010	0.002	5.87	0.000	***
BI	0.247	0.064	3.84	0.000	***
BD	0.650	0.056	11.51	0.000	***
BE	0.359	0.029	12.53	0.000	***
FD	0.069	0.007	9.81	0.000	***
Constant	0.427	0.015	27.54	0.000	***
R-squared	0.278		Hetest p-value	0.000	
Number of obs	231.000		Chi-square	1324.76	
Hausman p-value	0.0284		Prob> chi2	0.000	
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$					

Source: STATA 13 Output, 2020

This study used diagnostic analysis to ensure that the parameters were unbiased before conducting the final regression as argued by Wooldridge (2011). Among the test conducted in addition to the multicollinearity test based on the recommendation of Wooldridge (2011) are Hausman test which makes this study to go for fixed effect since the test is significant. Further test such as normality and heteroskedasticity test were also conducted. This is because, one of the parametric test condition is that the data must be normally distributed across the variables for the test to stand for generalization (Park, 2008). However, it was argued that the normality is to be conducted on the residuals of the model and not the data where the dependent variable determine the parametric analysis to be conducted (Ghasemi & Zahediasl, 2012).

Thus, this study conducted a normality test on the residuals of the model using Shapiro-Wilk and the study found that, the residual was normally distributed as it proved statistically insignificant with the p-value of 1.000. While the heteroskedasticity test conducted using Modified Group Wise proved statistically significant with p-value of 0.000, indicates absence of homoskedacity. Due to the presence of heteroskedasticity therefore, the study further conducted panel corrected standard error (PCSE) model which overcome the heteroskedasticity issues. Thus, this study report PCSE model results as suggested by Wooldridge(2011) based on the issues raised from the aforementioned.

The cumulative correlation between the explained variable and all the explanatory variables of 0.278 shows that BS, BI, BD, BE and FD jointly explained 27.8% of disclosure SED of listed environmentally sensitive firms in Nigeria and it is statistically significant at 1% as indicated with p-value of 0.000. The remaining 72.2% are caused by other factors that are not captured in the model. From the Table 4.3, there is clear evidence of significance between the board size and SED if one considered the p-values. Which means the variable is statistically significant.

From the result of the PCSE estimations, the result shows that BS has positive and significant relationship with SED, as indicated by the coefficient and p-value of 0.010 and 0.000 respectively. This is on the grounds that, large BS is seen to be well equipped and capable of influencing the extent to which firms disclose their activities in any environment. Therefore, we reject the null hypothesis, which states that BS has no significant impact on SED of listed environmental sensitive firms in Nigeria. This finding supports the proposition of Agency theory and the findings of Emmanuel et al.(2018); Gulzar et al. (2019); Handajani et al. (2014); Masud et al. (2018); Rabi (2019).

The relationship between BI and SED of listed environmental sensitive firms is positive as indicated with the coefficient of 0.247, which is statistically significant at 1% level of significance (p-value of 0.000). This implies that increase in number of independent directors will have positive influence on SED. This is because independent directors are likely to seek and facilitate (e.g. via information sharing) other channels that aid their monitoring activities, which will lead to more effective control over the actions and decisions of senior management and to provide transparent information to external parties and improve the level of SED. While other factors remain constant, this provides basis for rejecting the null hypothesis which states that, BI has no significant impact on SED of listed environmental sensitive firms in Nigeria. This finding supports the proposition of legitimacy theory and the findings of Aliyu, (2019); Dah and Jizi (2018); Gulzar et al. (2019); Masud et al. (2018); Oba and Fodio (2012).

Similarly, the result shows that there is positive and significant relationship between BD and SED of listed environmentally sensitive firms as indicated by the coefficient of 0.650 with p-value of 0.000. By implication, it means increase in BD will foster effectiveness of the board and improve SED. This is because gender diversity of the members on the board with technical intelligence, relevant skills, and external exposure would improve quality and facilitate decision-making process, aimed at increasing level of firms' policies towards corporate SED. This provides basis for rejecting the null hypothesis, which states that, BD has no significant impact on SED of listed environmental sensitive firms in Nigeria. This finding supports the proposition of legitimacy theory and the findings of Cucari et al. (2017); Emmanuel et al. (2018); Gulzar et al. (2019); Handajani et al. (2014).

From the result, the coefficient of BE has a value of 0.359 with p-value of 0.000. The implication is that there is a positive and significant relationship between BE and SED of listed environmental sensitive firms in Nigeria. The positive relationship means that increase in BE will lead to a corresponding increase in level of SED. This is because oversight functions performed by such members hold fast more to the related affirmed measures, laws and guidelines, which in turn enhances transparency and SED. Therefore, on this basis, the null hypothesis that BE has no significant impact on SED of listed environmental sensitive firms in Nigeria is rejected. This finding supports the proposition of Resource development theory and the findings of Umukoro et al. (2019).

Finally, FD has a coefficient of 0.069 with p-value of 0.000, which means that presence of foreign directors on the board has a positive and significant relationship with SED of listed environmental sensitive firms in Nigeria. It also means that an increase in the number of foreign directors will encourage SED. This is due to the fact that foreign directors pay more interest on social and environmental issues and are willing to transfer such acquired knowledge to the domestic developing countries such as Nigeria. On this basis, we therefore reject the null

hypothesis, which states that FD has no significant impact on SED of listed environmental sensitive firms in Nigeria. This finding supports the proposition of legitimacy theory and the findings of Beji et al. (2020); Emmanuel et al. (2018); Oba and Fodio (2012).

5. Conclusions and Recommendations

The study set out to examine the impact of board Characteristics on SED of listed environmentally sensitive firms in Nigeria, results from this study indicates a positive and significant relationship between all the explanatory variables (BS, BI, BD, BE, FD) captured and the explained variable (SED). In line with findings of this study, board characteristics were found to have a positive and significant impact on SED of listed environmental sensitive firms trading in Nigeria. The interference of BS, BI, BD, BE and FD cannot be ruled out from factors that influences the disclosure of Social and environmental information. The study therefore recommends that listed firms should comply adequately with the requirements of corporate governance related to board characteristics so as to ensure that SED is not compromised. The current paper contributes to the debate on factors that impact SED with a focus on environmentally sensitive firms.

References

- Aliyu, U. S. (2019). Board characteristics and corporate environmental reporting in Nigeria. *Asian Journal of Accounting Research*, 4(1), 2–17. <https://doi.org/10.1108/AJAR-09-2018-0030>.
- Amaechi, E. P., & Nwankwoke, E. M. (2017). Must firms Adopt Environmental Accounting? Adoption Challenges in Nigeria. *Trends Economics and Management*, 11(30), 9. <https://doi.org/10.13164/trends.2017.30.9>.
- Anazonwu, H. O., Egbunike, F. C., & Gunardi, A. (2018). Corporate Board Diversity and Sustainability Reporting: A Study of Selected Listed Manufacturing Firms in Nigeria. *Indonesian Journal of Sustainability Accounting and Management*, 2(1), 65–78. <https://doi.org/10.28992/ijsam.v2i1.52>.
- Bansal, S., Lopez-perez, M. V., & Rodriguez-ariza, L. (2018). Board Independence and Corporate Social Responsibility Disclosure: The Mediating Role of the Presence of Family Ownership. *Journal of Administrative Sciences*, 2(1), 1–21. <https://doi.org/10.3390/admsci8030033>.
- Beji, R., Yousfi, O., Loukil, N., & Omri, A. (2020). Board Diversity and Corporate Social Responsibility: Empirical Evidence from France. *Journal of Business Ethics*, 2(5), 2–23. <https://doi.org/10.1007/s10551-020-04522-4>.
- Benjamin, U. D., Okpanachi, J., & Muhammad, M. L. (2017). Effect of Firm Characteristics on Environmental Reporting Practices of Listed Manufacturing Firms In Nigeria. *Nigerian Journal of Management Sciences*, 6(1), 139–148.
- Bravo, F. (2018). Does board diversity matter in the disclosure process? An analysis of the association between diversity and the disclosure of information on risks. *International Journal of Disclosure and Governance*, 2(2), 2–11. <https://doi.org/10.1057/s41310-018-0040-4>.
- Cucari, N., Falco, S. E. De, & Orlando, B. (2017). Diversity of Board of Directors and Environmental Social Governance: Evidence from Italian Listed Companies. *Journal of Corporate Social Responsibility and Environmental Management*, 9(1), 1–12. <https://doi.org/10.1002/csr.1452>.
- Dah, M., & Jizi, M. (2018). Board Independence and the Efficacy of Social Reporting. *Journal*

- of International Accounting Research*, 17(1), 25–45. <https://doi.org/10.2308/jiar-51952>.
- Dowling, J., & Pfeffer, J. (1975). Organizational Legitimacy: Social Values and Organizational Behavior. *Pacific Sociological Review*, 18(1), 122–136. <https://doi.org/https://doi.org/10.2307/1388226>.
- Ejide, S., Omofuma, O. I., & Nwachi, V. C. (2017). *Environmental law and practice in Nigeria: overview*. Ejide Sodipo & Co. [https://uk.practicallaw.thomsonreuters.com/w-006-3572?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](https://uk.practicallaw.thomsonreuters.com/w-006-3572?transitionType=Default&contextData=(sc.Default)&firstPage=true).
- Emmanuel, O., Uwugbe, U., Teddy, O., Tolulope, I., Eyitomi, G. A., & Perspectives, B. (2018). Corporate diversity and corporate social environmental disclosure of listed manufacturing companies in Nigeria. *Journal of Business Perspective*, 16(3), 229–244.
- Eriabie, S., & Odia, J. (2018). Accountancy . 1,. *ESUT JOURNAL of Accountancy*, 7(1), 217–235.
- Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: A guide for non-statisticians. *International Journal of Endocrinology and Metabolism*, 10(2), 486–489. <https://doi.org/10.5812/ijem.3505>.
- Giannarakis, G., Andronikidis, A., & Sariannidis, N. (2019). Determinants of environmental disclosure□ : investigating new and conventional corporate governance characteristics. *Annals of Operations Research*, 3(1), 1–19. <https://doi.org/10.1007/s10479-019-03323-x>
- Grzebieluckas, C., Maria, L., Campos, D. S., & Mauricio, P. (2012). *Environmental accounting and environmental costs□ : an analysis of the scientific production from 1996 to 2007*. 333–343.
- Gulzar, M. A., Cherian, J., Hwang, J., Jiang, Y., & Sial, M. S. (2019). The impact of board gender diversity and foreign institutional investors on the corporate social responsibility (CSR) engagement of Chinese listed companies. *Sustainability (Switzerland)*, 11(2), 1–19. <https://doi.org/10.3390/su11020307>.
- Haladu, A. (2016). Arguments for Adopting Only Environmentally Sensitive Firms. *International Journal of Management Research and Review*, 6(9), 1204–1212.
- Haladu, A., & Salim, B. B. (2016). Board Characteristics and Sustainability Reporting□ : Environmental Agencies ' Moderating Effects. *International Journal of Economics and Financial Issues*, 6(4), 1525–1533.
- Handajani, L., Subroto, B., & Erwin, S. T. (2014). Does Board Diversity Matter on Corporate Social Disclosure□ ? An Indonesian Evidence. *Journal of Economics Ans Sustainable Development*, 5(9), 8–17.
- Herda, D. N., & Taylor, M. E. (2012). The Effect of Board Independence on the Sustainability Reporting Practices of Large U . S . Firms. *Journal of Social and Environmental Accounting*, 6(3), 178–197.
- Jensen, C., & Meckling, H. (1976). Theory of the firm: managerial behavior , agency costs and ownership structure I . Introduction and summary In this paper WC draw on recent progress in the theory of (1) property rights , firm . In addition to tying together elements of the theory of e. *Journal of Financial Economics*, 3(1), 305–360.
- Kaya, I. (2016). The Mandatory Social and Environmental Reporting: Evidence from France. *Procedia - Social and Behavioral Sciences*, 229(1), 206–213. <https://doi.org/10.1016/j.sbspro.2016.07.130>
- Koji, K., Adhikary, B. K., & Tram, L. (2020). Corporate Governance and Firm Performance: A Comparative Analysis between Listed Family and Non-Family Firms in Japan. *Journal of Risk and Financial Management*, 13(9), 215. <https://doi.org/10.3390/jrfm13090215>
- Lathabhavan, R. (2020). Mandatory Corporate Social Responsibility and After That□ ? An

- Analysis From India. *Journal International Economics*, 4(2), 274–292. <https://doi.org/10.4018/978-1-7998-2193-9.ch014>
- Lipunga, A. M. (2015). Integrated Reporting in Developing Countries: Evidence from Malawi. *Journal of Management Research*, 7(3), 130–156.
- Masud, M. A. K., Nurunnabi, M., & Bae, S. M. (2018). The effects of corporate governance on environmental sustainability reporting: empirical evidence from South Asian countries. *Asian Journal of Sustainability and Social Responsibility*, 3(1), 1–26. <https://doi.org/10.1186/s41180-018-0019-x>
- Maury, B. (2017). Sustainable competitive advantage and profitability persistence: Sources versus outcomes for assessing advantage. *Journal of Business Research*, 84, 100–113. <https://doi.org/10.1016/j.jbusres.2017.10.051>
- Nawawi, A., & Saiful, A. (2017). The Influence of Board Independence , Board Size and Managerial Ownership on Firm Investment Efficiency SOCIAL SCIENCES & HUMANITIES The Influence of Board Independence , Board Size and Managerial Ownership on Firm Investment Efficiency. *Journal of Social Sciences and Humanities*, 23(3), 1039–1058.
- Oba, V. C., & Fodio, M. I. (2012). Board Characteristics and the Quality of Environmental Reporting in Nigeria . The Journal of Accounting and Management Corporate Governance in Nigeria. *Journal of Accounting Management*, 2(2), 33–48.
- Oboh, C. S. (2018). *Ethical Ideologies and Values as Deteminants of Ethical Decision Making of Accounting Professionals in Nigeria and South Africa*. Unpublished PhD thesis, University of Lagos.
- Odera, O., Scott, A., & Gow, J. (2016). Differential reporting of social and environmental disclosures between local and foreign oil companies in Nigeria. *Social Responsibility Journal*, 12(3), 415–438. <https://doi.org/10.1108/SRJ-05-2015-0070>
- Odoemela, N., & Okafor, R. (2018). The Influence of Corporate Governance on Environmental Disclosure of Listed Non-Financial Firms in Nigeria. *Indonesian Journal of Sustainability Accounting and Management*, 2(1), 25. <https://doi.org/10.28992/ijms.v2i1.47>
- Ofoegbu, G. N., & Megbulu, A. (2016). Corporate Environmental Accounting Information Disclosure in the Nigeria Manufacturing Firms. *International Journal of Management Sciences and Business Research*, 5(12), 12. <http://www.ijmsbr.com>
- Ofoegbu, G. N., & Odoemela, N. (2018). Corporate Board Characteristics and Environmental Disclosure Quantity : A comparative Analysis of Traditional and Integrated Reporting Evidence. *Journal of Accounting and Financial*, 4(8), 1–12. <https://doi.org/10.20944/preprints201808.0419.v1>
- Okaro, D. C., & Okafor, G. O. (2016). Responsible Corporate Governance : Towards Sustainable and Effective Governance Structures. In *Integrated Reporting in Nigeria: The Present and Future* (pp. 247–263).
- Park, H. M. (2008). Univariate analysis and normality test using SAS, Stata, and SPSS. Working paper. *Indiana University Information Technology Services*, 1–41.
- Pfeffer, J. (1981). Management as Symbolic Action: The Creation and Maintenance of Organisational Paradigms. *Research in Organizational Behavior*, 3(1), 1–52.
- Rabi, M. (2019). Board Characteristics and Environmental Disclosure: Evidence from Jordan. *International Journal of Business and Management*, 14(2), 57. <https://doi.org/10.5539/ijbm.v14n2p57>
- Simranjeet, S., & Harwinder, K. (2015). Environmental Accounting and Reporting in India(A

- comparative Study of Associated Cement Companies Limited and Ambuja Cements Limited). *South Asian Academic Research Journals*, 5(3), 434–446.
- Soliman, M. (2013). Firm Characteristics and the Extent of Voluntary Disclosure: The Case of Egypt. *SSRN Electronic Journal*, 4(17), 71–81. <https://doi.org/10.2139/ssrn.2311005>
- Udofia, I. E. (2019). *Corporate Implementation of International Integrated Reporting Framework in Nigeria: Drivers, Economic Consequences and Challenges*. University of Lagos.
- Umukoro, O. E., Uwuigbe, O. R., Uwuigbe, U., Adegboye, A., Ajetunmobi, O., & Nwaze, C. (2019). Board Expertise and Sustainability Reporting in Listed Banks in Nigeria Board Expertise and Sustainability Reporting in Listed Banks in Nigeria. *Journal of Energy and Sustainable Environment IOP*, 3(1), 1–10. <https://doi.org/10.1088/1755-1315/331/1/012048>
- Uwuigbe, U., & Jimoh, J. (2012). Corporate Environmental Disclosures in the Nigerian Manufacturing Industry: A Study of Selected Firms. *African Research Review*, 6(3), 352–365. <https://doi.org/10.4314/afrev.v6i3.5>
- Uwuigbe, Uwalomwa, Egbide, B.-C., & Ayokunle, A. M. (2011). The Effect of Board Size and Board Composition on Firms Corporate Environmental Disclosure: A Study of Selected Firms in Nigeria. *Acta Universitatis Danubius: Oeconomica*, 4(5), 164–176. <http://search.ebscohost.com/login.aspx?direct=true&db=bsu&AN=74424102&site=ehost-live>
- Wooldridge, J. M. (2011). Introductory Econometrics. In *Journal of contaminant hydrology* (Vols. 120–121). <https://doi.org/10.1016/j.jconhyd.2010.08.009>
- Yahaya, O. A. (2018). Environmental Reporting Practices and Financial Performance of Listed Environmentally-Sensitive Firms in Nigeria. *Journal of Environmental and Social Sciences*, 24(2), 403–412.
- Zubeltzu-jaka, E., & Ortas, E. (2019). Independent Directors and Organizational Performance : New Evidence from A Meta-Analytic Regression Analysis. *Journal of Sustainability Reporting*, 1(9), 1–25.