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CORPORATE ENVIRONMENTAL DISCLOSURE IN SELECTED MANUFACTURING COMPANIES IN NIGERIA

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ABSTRACT

This study focuses on corporate environmental disclosure in Nigeria. The specific objectives were to examine the effect of board size, board independence, audit firm size, firm profitability and company size in relation to corporate environmental disclosure. The study is an expo- facto and a longitudinal panel data design covering a time period of four years (2011-2014). A total of forty-two (42) manufacturing firms quoted on the Nigerian Stock Exchange and selected through purposive sampling technique constituted the sample size. It employed content analysis and data were obtained from the financial reports of the sampled firms. Statistical tool used was least square regression and data was estimated with E-views 8.0. This study found that board independence and company size have significant effect on corporate environmental disclosure in Nigeria, while board size, audit firm type and profitability have no significant influence on corporate environmental disclosure in Nigeria. It recommends that board size should be a minimum of fifteen members of integrity and transparent characters; independent board should be persons of different ethnicity, gender and professionals background who can deliberate on issues that could enhance environmental disclosure. Also appointed auditors of companies should ensure that in the course of examining the truthfulness and fairness of financial statements, issues that are related to environmental disclosure identified be suggested to the board of directors.

KEYWORDS: Environmental Disclosure, Board Independence, Audit Firm Type and Firm Size

INTRODUCTION

Over the years, much emphasis has been placed by organizations and even the nations at large on the contribution of man-made assets such as plant, machinery, raw materials and other factors of production in the production of goods and services without the recognition of the effects of such productive activities on the environment (Sahay, 2004). The ecosystem has been disturbed as a result of production activities with great pressure on the natural resources which eventually resulted to flooding and industrial pollution. Corporate organisations disclose environmental information in their annual financial statement for the interest of corporate stakeholders, environmental groups, regulators as a way of promoting accountability and transparency of the company's activities and also in building trust and loyalty and thereby contributing to business performance (Suttipan & Stanton, 2012). Environmental disclosure presents an understanding of the cost and economic implications of how firm operations and activities that affect the environment and how to minimize such impact by: assessing compliance with relevant environmental statutory and internal requirements, promoting good environmental credibility with the public, raising staff awareness and enforcing commitment to environmental policy, exploring improvement opportunities, establishing the performance baseline for developing an environmental management system and facilitating management control of environmental practices (Ullah, Musharof & Yakub, 2014). Environmental disclosure provides a common framework for business entities to identify and account for past, present and future environmental costs so as to support management for decision-making.

The incidence of environmental pollution such as toxic waste, noise, and emission among others as a result of activities of companies, have contributed to the increased demand of environmental disclosure in several developed countries of the world **(**Kolk & Tulder, 2010). Firms' activities impacts on the environments which are not disclosed in the annual reports have affected the quality of decision expected to be taken by stakeholders (Beretta & Bozzolan, 2004). Several of these environmental activities disclosure were made mandatory in the annual financial reports of firms in developed countries for the interest of stakeholders **(**Kolk & Tulder, 2010).

Both small and large firm's activities impacts on the environment which are not disclosed in the annual reports. Non-disclosure of environmental information in the annual report has affected the quality of decision expected to be taken by stakeholders (Beretta & Bozzolan, 2004). The monitoring role of the independent board could have implications on environmental disclosure of firms. Most studies on environmental disclosure in manufacturing sector were carried out in developed countries where environmental compliance is compulsory, like in US, UK, Australia, France (KPMG, 2008; Suttipan & Stanton, 2012), while scanty of these studies were carried out in developing countries like Nigeria but dwelt more on firms in the oil and gas sectors. To the best of our knowledge, few empirical studies have been conducted on corporate environmental disclosure in manufacturing quoted firms in Nigeria like Ngwakwe, (2009); Minga,(2010) who concentrated their studies merely on the relationship between firms' social responsibility practices and their performance. Also extant studies from Nigeria

Failed to recognize the inclusion of important variables like audit firm type and board independence which seem to enhance corporate environmental disclosure. There lies a gap in knowledge in this respect. It is this gap that motivated this present study.

Against the backdrop, the broad objective of this study is to investigate corporate environmental disclosure in selected manufacturing companies quoted on the Nigerian Stock Exchange, while specific objectives are to: examine the effect of board size, board independence, audit firm size, firm profitability and company size on corporate environmental disclosure in Nigeria. The remaining of this paper is organized as follows: Section II discusses the relevant literature and hypothesis development. Section III focuses on our methodology. Section IV presents the results. Section V summarises the key findings, makes conclusion and recommendations.

LITERATURE REVIEW

THE CONCEPT OF CORPORATE ENVIRONMENTAL DISCLOSURE

The main purpose of environmental disclosure is to examine and incorporate in the firm financial statement issues that involve environmental hazard that are not covered by the traditional accounting function that can be used for decision making by the stakeholders (Crowther, 2002). Disclosure of environmental activities emphasis the need for a close monitoring of natural resources and the company's harmful impact on the society. Several scholars have viewed corporate environmental disclosure from their own perspectives. Lodhia, (2006) defined corporate environmental disclosure as a reporting process by which corporate entity discloses environmental information in their financial statement and accounts in order to communicate their financial positions to the respective stakeholders so as to provide evidence of stewardship report. Berthelot, Cormier and Magnan, (2003) defined environmental disclosure as the disclosures that related to a firm's past, current and future environmental management decisions, activities and performance. Pahuja (2009) was of the view that companies which are environmentally sensitive disclose more environmental information on the financial statement than companies which are not environmentally inclined. Meanwhile, the companies also face greater pressure from stakeholders within and outside the companies. Dixon, Mousa and Woodhead (2005) added that the reasons for disclosing environmental information on the annual financial statement of listed companies is to increase rate of environmental regulations and pressure for clean air, clean water etc. Corporate environmental disclosure shapes external perceptions of the firm, helps relevant stakeholders assess whether the firm is a good corporate citizen, and ultimately justifies the firm continued existence to its stakeholders.

Dhaliwal, Li, Tsang and Yang, (2009) stated that corporate environmental disclosure reduces the information gap between the firm and stakeholders and thus lowers the firm's cost of capital. While Hooghiemstra (2000) posits that corporate environmental disclosure provides a channel through which the firm can manage its public image. According to Shil and Igbal (2005) environmental disclosure is defined as a comprehensive approach of ensuring good corporate governance by a way of transparency in its community's activities. Carrol, (2010) defined corporate environmental disclosure as organization's commitment to operate in an

Economically and environmentally sustainable manner while recognizing the interests of all its stakeholders. However, we view corporate environmental disclosure as the reporting of environmental cost associated with firm's activities in the financial statement and accounts of the company for the interest of stakeholders.

BOARD SIZE AND CORPORATE ENVIRONMENTAL DISCLOSURE

Board size is the total number of directors sitting on the board of any corporate organization. An ideal board size for an organization is very important because the number and quality of directors in a firm determines the influence of the board on the area of environmental disclosures (Forbes & Milliken, 1999). Yoshikawa and Phan (2003) opine that a small board size escapes the difficulty of organizing and coordinating large group of directors and ensures effectiveness and performance of the firm. Byard, Li and Weintrop (2006) examine corporate governance and the quality of financial information and showed that there exists a negative relationship between board size and financial information. Parsa and Kouhy(2008) investigated the determinants of the disclosure of social information using a sample of 100 small and medium sized companies in the United Kingdom. They applied a correlation test to examine the association between corporate social and environmental disclosure and other independent variables. Their findings revealed that large business entities are more focused and give attention to the disclosure of social information. Based on the outcome of the empirical review, we therefore hypothesize that, "H_{01}: There is no significant relationship between board size and corporate environmental disclosure in Nigeria".

BOARD INDEPENDENCE AND CORPORATE ENVIRONMENTAL DISCLOSURE

Independent non- executive directors with the right skill sets, who have no business and other relationships which could interfere with the exercise of independent judgment or the ability to act in the best interest of the shareholders, are viewed to be in a better position to monitor management than inside directors. Hossain and Reaz (2007) conducted a study on determinants of voluntary social disclosure in annual financial reports of Indian banking companies. They used a sample of 38 banking companies in Indian. The empirical findings revealed that company size and assets-in-place are significantly related to disclosure. Ienciu, (2012) conducted a study on the relationship between environmental reporting and corporate governance characteristics of Romanian listed entities. A sample of 64 companies quoted at Bucharest Stock Exchange was used. Content analysis was used in the study while variables were collected from 2010 annual financial statements and other company reports. The results shown that the size and structure of the board, the independence of the board and board size have a significant association with environmental disclosure. Mgbame and Onoyase (2015) conducted study on the effect of corporate governance on the extent of environmental reporting in the Nigerian oil industry and revealed that the board size, board independence, audit committee independence and managerial ownership concentration had a significant positive impact on environmental reporting.

H_{02}: There is no significant relationship between board independence and corporate environmental disclosure in Nigeria.

AUDIT FIRM TYPE AND CORPORATE ENVIRONMENTAL DISCLOSURE

The auditor provides an external and objective check on the way in which the financial statements have been prepared and presented (The Cadbury Committee, 1992). According to KPMG (2006), the increasing number of companies now appending external verification audits to their corporate environmental reports may be due to expectations of accountability. The involvement of an auditor as an external verification of the environmental information increases the pressure placed on corporations to produce accurate estimates of environmental liabilities and other such disclosures. Ahmad, Hassan and Mohammad (2003) carried out a study on the factors which influence environmental disclosure in annual financial reports of Malaysian. They used a sample of 299 quoted companies for the study. They examined variables such as: firm size, financial leverage, profitability, industry membership, auditor type and effective tax rate. The results revealed that auditor type and financial leverage have significant relationship with environmental disclosure. Hossain, Islam and Andrew (2006) conducted a study in Bangladesh on the relationship between social and environmental disclosure. Determinants variables such as: profitability, industry, subsidiaries of multinational company, size and audit firm was used for the study. The results revealed that Industry and net profit margin were found to be positively significantly related to the levels of environmental disclosure.

Dibia and Onwuchekwa (2015) conducted a study on the determinants of environmental disclosures in Nigeria using the oil and gas companies as a case study. The study employed a cross-sectional and a longitudinal research design for the collection of data from 15 quoted companies drawn from the oil and gas sectors of the Nigerian stock exchange for the periods of 2008 to 2013. The empirical results from the Binary regression revealed that company size had a significant relationship with corporate social while profitability, leverage, audit firm type had no significant relationship with corporate social responsibility disclosures. Following the H_{03}: There is no significant relationship between audit firm type and corporate environmental disclosure in Nigeria.

FIRM PROFITABILITY AND CORPORATE ENVIRONMENTAL DISCLOSURE

Firm Profitability has been a major matter in company operations and important in disclosure of environmental issues by extant studies (Setyorini & Ishak 2011). Ghasempour and Yusof (2014) conducted a work on the effect of fundamental determinants on voluntary disclosure of financial and nonfinancial information: The Case of internet reporting on the Tehran Stock Exchange. The study revealed that there is no significant relationship between variables of financial leverage, financial performance (profitability), and earnings volatility and voluntary disclosure. Oluwagbemiga (2014) conducted a study on the use of voluntary disclosure in determining the quality of financial statements: Evidence from the Nigeria listed companies and found that there was increased performance and investor decision making was easy to make due to voluntary disclosure. Ngwakwe (2009) investigated the relationship between firm's social responsibility practices and their performance. The study while focusing only on the manufacturing industry concluded that a positive relationship exists between the social responsibility practice of firms and their performance. This also means that high

Performing firms adhered more strictly to social environmental practice. Uwuigbe (2011) investigate the relationship between corporate social disclosure and profitability of the firm and found that a significant positive relationship exists between firm's profitability and corporate social disclosure.

Saha and Akter (2013) examined the relationship between environmental reporting and corporate profitability in Bangladesh listed companies and showed that a significant positive relationship exist between profitability and environmental reporting. Arong, Ezugwu and Egbere (2014) examine the relationship between environmental cost management and profitability of oil sector in Nigeria by using multiple regression analytical technique and showed that a significant relationship exists between environmental cost management and profitability of oil sector in Nigeria. A study conducted by Vance (2010) on the relationship between firm performance and corporate social and environmental disclosure revealed that a negative relationship exists between firm performance and corporate social environmental disclosure

Rahman, Yusoff and Mohamed (2010) evaluate the relationship between environmental disclosures and financial performance and documented that there is no significant relationship between environmental disclosure and financial performance among the sampled firms. Sewon and Claiborne (2008) study was on the determinants of voluntary disclosure financial reports in listed companies in China. They revealed that level of voluntary disclosure and profitability of the firm proxied by return on equity is significant and positively related. Following the outcomes, we hypothesized that, "H_{04}: There is no significant relationship between firm profitability and corporate environmental disclosure in Nigeria".

COMPANY SIZE AND CORPORATE ENVIRONMENTAL DISCLOSURE

Larger firms tend to be more concerned with their corporate environmental reputation and image, since they are more visible to external stakeholders who constantly demand for a higher environmental performance and reporting (Uwalomwa, 2011). Several prior studies have examined the association between firm size and environmental disclosure. Ibrahim, (2014) investigated firm characteristics and voluntary segments disclosure among the largest firms in Nigeria. Disclosure index was used on a quantitative basis to measure the extent of segment disclosure in the sample companies' annual reports using the un-weighted index of 76 companies while, descriptive analysis, Pearson correlations as well as multivariate regression were also employed in the study. The results document that firm size and industry type have positive association with voluntary environmental disclosure. Akbaş, (2014) conducted an empirical examination on selected 62 non-financial companies characteristics to examine the extent of environmental disclosures of firms operating in Turkey quoted on the Borsa Istanbul. The study employed content analysis using word counts and found that there is a positive association between company size and the extent of the environmental disclosure.

Spicer (2011) suggest that firm size as a factor influencing pollution control, as larger companies had a better record in this regard than smaller firms. Suttipun and Stanton (2012) examined the determinants of environmental reporting in Thailand firms listed on the floor of

The Stock Exchange. They used a sample of 75 companies quoted on the Stock Exchange of Thailand (SET) for year, 2007 and revealed that a significant relationship exists between size of the firm and environmental reporting. Setyorini and Ishak (2012) conducted a study on corporate social and environmental disclosure in the Positive Accounting Theory (PAT) perspective in Indonesian. They employed a sample of 911 companies quoted in Indonesia Stock Exchange. The result of their regression analysis revealed that return on assets, company's size and company's earnings management are significantly related to corporate social and environmental disclosure. Andrikopoulos and Kriklani (2013) investigated the relationship between environmental disclosure and financial characteristics in Denmark listed companies. The results showed that size of the firm has a significant positive impact on environmental reporting among the listed companies. Having examined the results, we therefore hypothesize that, "H_{05}: There is no significant relationship between company size and corporate environmental disclosure in Nigeria".

THEORETICAL FRAMEWORK

Theories underpinning this study are as follows.

ACCOUNTABILITY THEORY

It is ethical and equally a moral obligation for managers to make available information about operations of the company. This call for disclosures of certain aspects which may not be readily discernable from the external point of view. Disclosures of environmental liabilities may be tie to the purpose of accountability (O'Donovan, 2002). Information with respect to financial relating to any company has different values for various users. These stretch from internal to external users. Internally, such information including environmental issues should be made available for management plans as well as for control purposes. In the same way, environmental information should be made available for the interest of corporate stakeholders, environmental groups, regulators as a way of promoting accountability and transparency of the company's activities. By a way of illustration, estimates of future spending on environmental liabilities may be based on earlier reports. Externally, usage among others is consideration for tax assessment by government tax authority, creditors, owners and labour unions.

LEGITIMACY THEORY

According to O'Donovan, (2002) legitimacy theory is derived from the notion of organizational legitimacy. The theory present a view that the interrelationship between an organization and related social expectations is basically a fact of social life. According to Mgbame and Ilaboya, (2013) the survival of a corporate entity is established both by market forces and society expectations, therefore, an understanding of the broader concerns of community expressed in society expectations becomes a necessary precondition for an company's survival. The theory focuses on the assumption that an organization must retain it's social role by responding to society's needs and giving society what it wants (Deegan, 2002).Legitimacy theory has been utilised to assess the various strategies management may choose from so as to remain legitimate. Therefore, as companies in the manufacturing sector in Nigeria carry out their legitimate businesses in the environment in which they operate,

Disclosing all facts of environmental costs to the community and society at large becomes imperative.

METHODOLOGY

This study is an expo-facto and a longitudinal research design covering a time period of four years (2011-2014). A total of seventy-one (71) manufacturing companies quoted on the Nigerian Stock Exchange constituted the population size. The justification for choice of manufacturing sector was due to the notion that banks and other financial institutions do not directly impact negatively on the environment and due to their specific core business and risk profile, they would have altered the average results when compared to firms in manufacturing sector (Singh & Davidson, 2003). A total of forty-two (42) manufacturing companies formed the sample firms and determined using the Yamane (1967) approach. Purposive sampling technique was used in the selection of the sampled firms. The estimated Yamane's formula is stated as:

$$n = \frac{N}{1+N(e)^2}$$

Where: n_o=Sample size
N=The size of the population
e=The error term (where standard error is 10%).

The study used content analysis and specifically employed a word count of environmental disclosed information in the annual report based on structured check list. Data used were obtained from the published annual financial statements and accounts of the sampled manufacturing companies. The statistical tool employed is panel least square regression. Descriptive statistics and pearson correlations matrix were used respectively for the purpose of assessing normality of the variables for regression with emphasis on Jacque-Bera test and test for presence of multicollinearity in the results. Data obtained was estimated with computer software using E-Views 8.0.

The model estimation for this study was adapted from the work of Akbaş, (2014), which was specified as:

$$EIDi = \alpha_0 + \beta_1 SIZEi + \beta_2 LEVi + \beta_3 PROFi + \beta_4 INDi + \beta_5 AGEi + \varepsilon i$$

Where:

EID: The extent of environmental disclosure of companies *i* in 2011 (Total number of words related to the environmental issues in the annual report of the company)

α_0: intercept

SIZE: size of company *i* (natural logarithm of total assets at the end of year 2011)

LEV: leverage ratio of company *i* (ratio of the total debt to equity at the end of year 2011)

PROF: profitability of company *i* (ratio of net profit after tax to total assets at the end of year 2011)

IND: industry membership of company *i* (dummy variable, it takes 1 for companies in environmentally sensitive industries and 0 for those in non-sensitive industries)

AGE: age of the company *i* as of 2011

εi: random error term

For the purpose of this study, we modified the above model. Therefore, our model is specified as:

$$CED = \beta_0 + \beta_1 BOARDS_t + \beta_2 BIND_t + \beta_3 AUDFTYPE_t + \beta_4 PTOFT_t + \beta_5 CSIZE_t + U \ldots (1)$$

Where:

β_0 = Constant or Intercept.

$\beta_1, \beta_2, \beta_3, \beta_4$ & β_5 = Coefficients to be estimated

Apriori Expectation: $\beta_{1>0}$, $\beta_{2>0}$, $\beta_{3>0}$, $\beta_{4>0}$ & $\beta_{5>0}$

OPERATIONALISATION OF INDEPENDENT VARIABLES

Variables	Notation and Sources	Apriori Expected
CED	Corporate Environmental Disclosure. This study employed Content Analysis using number of words count of environmental information disclosed in the annual report issued, since number of words count as a recording unit has the advantage of being categorised more simply (Damak-Ayadi, 2010) Ghasempour and Yusof, (2014) while, Eljayash, Kieran and Kong, (2012) and Akbaş, (2014) employed weighted disclosure index. Nevertheless, for the purpose of this study, twenty (20) content category items with four (4) testable dimensions of corporate social disclosure were developed as shown below. Consequently, a firm could score a minimum of zero and a maximum of twenty points. The formula for calculating the total reporting score by using these twenty (20) attributes are expressed below as; $TD = \sum di_{i=1}^{20}$ Where: TD=Total Disclosure Score Di =1, if the di is disclosed and 0 if the item di is not disclosed or reported.	
BOARDS	Board Size was measured by the number of directors sitting on the board. (Parsa & Kouhy, 2008)	+ or -
BIND	Board Independence was measured by the number of non-executive directors sitting on the board. (Ienciu, 2012)	+
AUDFTYPE	Audit Firm Type was measured by dummy "1" for firms audited by the big 4/big 5 otherwise "0". (Hossain, Islam & Andrew ,2006)	+
PROFT	Firm profitability was measured by profit after tax (PAT) disclosed on the income statement of the company's annual report. (Setyorini & Ishak, 2011)	+
CSIZE	Company Size was measured in terms of total assets (Galani, Efthymios & Stavropoulos, 2011)	+

Source: *Author's Compilation (2016)*

RESULTS AND DISCUSSION

The outcome of panel data estimated with E-views 8.0 were analysed and interpreted accordingly below.

TABLE 1: Descriptive Statistics

	CED	BS	BIND	AUDTYPE	ROA	CSIZE
Mean	5.026316	10.14035	0.692088	0.614035	0.144858	10.07751
Median	5.000000	9.000000	0.000000	1.000000	0.057266	9.943338
Maximum	11.00000	22.00000	0.960000	1.000000	0.065666	11.96164
Minimum	2.000000	5.000000	0.440000	0.000000	-0.156817	8.568266
Std. Dev.	2.271254	3.269265	0.283959	0.488972	0.365449	0.738619
Skewness	0.736626	1.150605	0.708603	-0.468487	6.249177	0.318325
Kurtosis	2.837736	4.673562	2.307272	1.219481	49.90640	2.117734
Jarque-Bera	10.43481	38.45778	11.81964	19.22882	11.19299	5.622656
Probability	0.005421	0.000000	0.002713	0.000067	0.003873	0.060125
Sum	573.0000	1156.000	534.8980	70.00000	16.51385	1148.836
Sum Sq. Dev.	582.9211	1207.754	2073.811	27.01754	15.09145	61.64798
Observations	168	168	168	168	168	168

Source: *Author's Computation, 2016*

Table 1 revealed that corporate environmental disclosure (CED) of the sampled companies was at an average word count of 5 items and at minimal standard deviation of 2.2713 units. The average board size (BS) of 10.1404 units indicated that the constituted board size was at a mean of 10 board members. Board independence (BIND) was on the average of 0.6921 which is about 69.21% of the total board size and a minimal standard deviation of 0.2840 units. Audit firm type (AUDFTYPE) of a mean value of 0.6140 units suggested that about 61.4% of the firms were audited by the BIG 4 audit firms. Return on asset (ROA) which is a proxy for profitability showed a value of 0.14486, which implied that performance of the sampled firms was at a mean of about 14.49%. Finally, company size (CSIZE) with a value of 10.0775 units, suggested that sampled firms worth billions of Naira (meaning that sampled firms were moderately large). The Jarque-Bera statistics showed that all the variables except company size were normally distributed at 5% level of significance for the purpose of regression analysis. To measure the degree of linear relationship between the dependent variable and explanatory variables, a Pearson correlation matrix was conducted and presented in Table 2;

TABLE 2: Result of the correlation analysis

	CED	BS	BIND	AUDTYPE	ROA	CSIZE
CED	1.000000	0.144899	0.162283	0.160627	0.011521	0.185540
BS		1.000000	0.540020	0.189192	0.016899	0.119610
BIND			1.000000	0.351044	-0.040600	-0.246632
AUDTYPE				1.000000	0.000635	-0.048400
ROA					1.000000	-0.006343
CSIZE						1.000000

Source: *Author's Computation (2016)*

Table 2 examined association among variables. It is deduced that when corporate environmental disclosure (CED) was at 1 unit, board size (BS=0.1449), Board independence (BIND=0.1623, Audit firm type (AUDTYPE=0.1606), Return on assets (ROA=0.0115), company size (CSIZE=0.1855) showed positive correlations respectively. There is no evidence of perfect correlation which suggest that there is absent of multicollinearity since none of the variables exceeded 0.80. Multicollinearity between explanatory variables may result to wrong signs or implausible magnitudes in the estimated model coefficients, and the bias of the standard errors of the coefficients. According to Bryman and Cramer, (1997) the correlation coefficient should not exceed 0.90; otherwise, the independent variables that show a relationship in excess of 0.80 may be suspected of exhibiting multi-colinearity.

Table 3: Panel Least Squares

Dependent Variable: CED
Method: Panel Least Squares
Date: 06/21/16 Time: 14:20
Sample: 2011 2014
Periods included: 4
Cross-sections included: 42
Total panel (unbalanced) observations: 168

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7.828502	5.751604	-1.361099	0.1781
BS	0.239331	0.164307	1.456608	0.1500
BIND	0.426364	0.187104	2.278750	0.0259
AUDTYPE	0.911154	0.716065	1.272446	0.2077
ROA	0.725614	0.693242	1.046696	0.2991
CSIZE	1.167339	0.548269	2.129133	0.0370

Effects Specification

Cross-section fixed (dummy variables)
Period fixed (dummy variables)

R-squared	0.728321	Mean dependent var	5.026316
Adjusted R-squared	0.534852	S.D. dependent var	2.271254
S.E. of regression	1.549034	Akaike info criterion	4.008702
Sum squared resid	158.3675	Schwarz criterion	5.160786
Log likelihood	-180.4960	Hannan-Quinn criter.	4.476268
F-statistic	3.764546	Durbin-Watson stat	2.098810
Prob(F-statistic)	0.000000		

Source: *Author's Computation (2016)*

Table 3 revealed that the coefficient of determination (R^2) with a value of 0.728321 implied that 73% of the systematic variations in corporate environmental disclosure is jointly explained by the independent variables. On adjustment of degree of freedom, adjusted R-square indicated that about 0.5349, that is about 53.5% of the variations were accounted for by the independent variables. The F-statistics value of 3.7645 and its associated p-value of 0.0000 which is higher than standard error of regression which stood at a minimal value of 1.5490 showed that the overall model is statistically significant. This implied that there exists a significant linear relationship between the dependent and independent variables in the model. Furthermore, the Durbin Watson statistics with a value of 2.0988, suggested that there is absent of autocorrelation in the results. However, results in the Table 3 indicated that two variables were statistically significant [board independence (BIND) and company size (CSIZE)], while three variables were statistically insignificant [Board size (BS), audit firm type (AUDTYPE), and returns on assets (ROA)].

DISCUSSION OF FINDINGS

The findings made in this study were quite far reaching. It is observed that board size has no significant relationship with corporate environmental disclosure in Nigeria, since it is not statistically significant, but the positive coefficient value is an indication that the result is in line with the apriori expectation. The implication is that board size is not basically fundamental in enhancing corporate environmental disclosure. The finding was consistent with Byard, Li and Weintrop (2006) who revealed that no significant relationship exists between board size and corporate financial information of environmental disclosure.

It was also found that independent board has positive significant relationship with corporate environmental disclosure in Nigeria since the result was statistically significant. The positive coefficient value further suggested that result supported apriori expectation. The finding buttressed Mgbame and Onoyase (2015) who established that independent board had a significant positive impact on environmental reporting. The implication was that the independent board which is charged with the responsibility of monitory and controlling management is crucial in facilitating and determining corporate environmental disclosure.

It was also observed that Audit firm type has no significant relationship with corporate environmental disclosure in Nigeria. The positive coefficient value signified that it is in line with the apriori expectation. The finding was consistent with the findings of Dibia and Onwuchekwa (2015) that audit firm type had no significant relationship with corporate social responsibility and environmental disclosures. The implication is that the appointed auditor of firms are charged with the responsibility to merely verify and give truthful and fair independent reports on the financial statements prepared by management, and not to be more concerned with corporate environmental disclosure.

It was found that return on asset which is a proxy for profitability has no significant relationship with corporate environmental disclosure in Nigeria. The positive coefficient value signified that it is in line with the apriori expectation. This finding is consistent with Rahman, et.al (2010) who revealed that firm profitability has no significant relationship with

Environmental disclosure. But it argued against Saha and Akter (2013) who found that there is significant positive relationship between profitability and environmental disclosure. The implication of the finding suggested that profitability is not a yardstick for ensuring corporate environmental disclosure. Hence, whether a firm made profit or loss, it is expected that firm could disclose environmental information in the annual report.

Finally, it was also found that company size has positive significant relationship with corporate environmental disclosure in Nigeria. The positive coefficient value suggested that it is consistent with the apriori expectation. The finding is consistent with Andrikopoulos and Kriklani (2013) who indicated that company size has a significant positive impact on environmental reporting among the listed companies. The implication of this finding is that the size of the firm is fundamental in corporate environmental disclosure.

CONCLUSION AND RECOMMENDATIONS

Environmental disclosure remains a crucial issue in corporate reporting. Disclosure of environmental activities emphasis the need for a close monitoring of natural resources and the company's harmful impact on the society. A well constituted board size and independent boards were to ensure proper articulation of issues that affect the company and the environment, the company operates. Similarly, the appointed auditors could as well assist in taking cognizance of some fundamental issues that needed to be disclosed in the company's financial reports for the interest of stakeholders. Part of the profit realised in the company's financial year in most cases could be apportioned for environmental activities in the financial report which could enhance disclosure. In effect, corporate environmental disclosure is necessary in the annual report for the interest of stakeholders.

Hence the following recommendations are put forward:

(1) Board size of quoted companies should be a minimum of fifteen constituted members. With such number of members, there will be adequate representation of executive and non-executive directors of different gender, ethnicity and professionals who can deliberate on issues that can pave way for environmental disclosure.

(2) The independent board should comprise individuals with credibility and accountability in addressing issues that could enhance environmental disclosure.

(3) Appointed auditors of companies should ensure that in the course of carrying out investigation on the firm financial statement, issues that are related to environmental disclosure identified should be suggested to the board of directors in their report.

(4) Whether a company made profit or loss, there should be environmental disclosure of information. However, when a company declares profit, certain amount should be used to fund environmental and corporate social responsibility activities in a proactive nature.

(5) Size of the company should be seen to be fundamental in environmental disclosure. All corporate organisations in manufacturing sector and those organisations whose operations are harmful to the environment should ensure a disclosure of environmental information in their annual financial reports.

(6) It is believed that if government regulatory agencies like the National Environmental Standard and Regulatory Enforcement Agency (NESREA); National Environmental Policy (NPE) and Federal Ministry of Environment (FME) among others can be strengthened or improved on their efficiency will enhance firm's compliance with environmental laws and regulations in Nigeria.

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