A STUDY OF THE RELATIONSHIP BETWEEN CORPORATE GOVERNANCE AND ENVIRONMENTAL REPORTING IN NIGERIA’S LISTED CONSUMER GOODS COMPANIES

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Abstract

Effective corporate governance cannot be overemphasized in a country bedeviled by financial recklessness in the public and private sectors such as Nigeria. The desire to amass profit at the expense of the environment by businesses without recourse to all stakeholders aroused the interest in carrying out this study. Hence in today’s highly competitive business world, corporate governance and regulation cannot be isolated from stakeholders demand for high rate of accountability and environmental reports from companies. Hence, this study evaluated the relationship existing between corporate governance and environmental reporting of listed consumer goods’ companies in Nigeria by focusing on the effect which board size, board independence, ownership concentration, females on the board, CEO duality and independent audit committee have on environmental reporting. Descriptive and inferential statistics were used to analyze the secondary data obtained from the annual reports of the 20 consumer goods’ companies used in the study. Results obtained revealed positive significant effect of board size, board independence and institutional ownership on environmental reporting. The control variables firm size, leverage and profitability also exhibited significant positive relationship with environmental reporting. Hence, the study recommended among others that adequate and active board members constituting board size be maintained to improve environmental reporting while passive directors are to be excused from the board.

Keywords: Corporate governance, environmental reporting, consumer goods’ companies, Nigeria

JEL Classification Codes: G30, Q50

1. INTRODUCTION

Previously in the developing countries such as Nigeria, environmental issues were treated with levity and minimal importance. However, it has seized to be business as usual as stakeholders generally demand responsible behaviours and environmental sensitivity from companies. With the advancement in technology and the world now a global village, sustainable environment with due accountability is highly desired by majority of the Nigeria
populace. A popular way to determine any company’s environmental responsibility is by examining its environmental disclosure.

Presently, the developing countries encourage businesses to incorporate environmental responsibility in their annual reports. This also has led to measuring success of any firm by its financial performance as well as social and environmental impact (Davies & Okorite, 2007). Voluntary environmental disclosure quality by companies should include information on community involvement, environmental protection, waste management, employee health and safety, product safety, research and development and a host of others (Jeroh and Okoro, 2016; Osemene, Gbadeyan & Oyelakun, 2016; Plumlee & Marshall, 2015). This voluntary disclosure however seems not to be in the interest of majority of Nigerians.

Research attention over the past few decades has attempted to understand and explain corporate reporting which appears to be outside the conventional domains of accounting disclosures. Deegan and Rankin (1997) explained corporate environmental reporting as the method companies deploy in relating the environmental effects of their activities to various stakeholders in the society. Companies through the process of environmental communication may positively influence members of the public’s opinion and perception towards their activities. By reporting environmental information, a firm addresses the information needs of stakeholders and provides a basis for dialogue. However, environmental reporting has developed rather voluntarily in Nigeria and companies often choose what to disclose and may even decide not to. Corporate governance is of great interest in the business and academic circles due to major corporate and financial scandals that rocked Enron, WorldCom, Arthur Anderson, the Northern Rock bank, several banks in Nigeria as well as Cadbury, and a host of others globally (Osemene et al., 2016; Mgbame & Omokhuale, 2015). Analysts traced the various misconduct and corporate malfeasance to bad corporate governance. In Nigeria for instance, incessant bank failures, mismanagement of finances, window dressing, and failure or poor CSR reporting portend credibility gap in corporate governance culture by corporations (Osemene, Gbadeyan & Oyelakun, 2016; Nwagbara, 2014).

Corporate governance and environmental reporting are essential for successful business operations in today’s highly competitive business world. Effective corporate governance and regulation cannot exist in isolation from the world in which stakeholders are ever demanding high rate of accountability from corporations (Freeman, 1984). Nigeria is among the top six countries globally that is rated as a heavy polluter due to gas flaring and indiscriminate emission into the atmosphere by oil and gas, manufacturing, chemical and cement companies. The stakeholders’ agitations in the southern part of Nigeria especially Niger Delta where militancy persists could be traced to incessant pollution of the region affecting man, animals, plants, rivers and the environment generally (Osemene, Kolawole & Oyelakun, 2016; Hassan & Kouhy, 2013; Adediran & Alade, 2013; Asaolu & Osemene, 2009; Osemene & Olaoye, 2009).

Corporate social and environmental reporting has thus become a point of interest for researchers. Different stakeholders such as shareholders, suppliers of foreign capital, government, employees, customers and potential customers, and the general public all claim a right to environmental information. Corporate environmental disclosure is a part of social reporting and environmental disclosures are mainly non-financial in nature (Belal, 1999). Therefore, due to severe deterioration of the ecological environment, environmental
protection pressures from government, media- especially the social media and other stakeholders, much attention is being paid to environmental disclosure (ED) by firms. ED has become an important part in the annual report, the social responsibility report and other information disclosure reports (Clarkson et al. 2011).

Academic research is heavily concerned with environmental disclosure and the idea of corporate social responsibility as a broader aspect. Many previous literatures investigated the concept of social responsibility and the importance of disclosure. However, environmental disclosure practices have not received much attention as compared to corporate social responsibility reporting in developing countries (Uwuigbe & Jimoh, 2012). It is against this background that this study attempts to evaluate the relationship that exist between corporate governance and environmental reporting of listed consumer goods’ companies in Nigeria by focusing on the effect or influence which board size, board independence, ownership concentration, females on the board, CEO duality and independent audit committee have on environmental reporting.

The hypotheses guiding the study are stated as follows:

H01: Board size has no effect on environmental reporting among quoted consumer goods companies in Nigeria
H02: Board independence has no effect on environmental reporting among quoted consumer goods companies in Nigeria
H03: Ownership concentration has no influence on environmental reporting among quoted consumer goods companies in Nigeria
H04: Gender has no influence on environmental reporting among quoted consumer goods companies in Nigeria.
H05: CEO duality has no impact on environmental reporting among quoted consumer goods companies in Nigeria.
H06: Audit committee independence has no impact on environmental reporting among quoted consumer goods companies in Nigeria.

The study investigates the effects of the relationship between corporate governance and environmental reporting of quoted consumer goods companies in Nigeria from 2008 to 2018.

2. LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Corporate Governance

Corporate governance is important for creating an enabling business environment attractive to potential local and foreign investors. Companies are governed, directed, administered, managed and controlled via effective corporate governance. A report by World Bank (2006) defines corporate governance as the structures and processes for the direction and control of companies; that is, it entails the relationship amongst the management, board of directors, controlling shareholders, minority shareholders and other stakeholders. In Ioana and Gherghina (2007), Organization for Economic Co-operation and Development (OECD) added that corporate governance refers to the system by which corporations are managed and

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controlled. The governance structure spells out the distribution of right and responsibilities among different actors in the company and defines the rules and procedures for making decisions in corporate organizations that affect all the stakeholders and the environment. Therefore corporate governance refers to the set of systems, structures and the procedures which determine how a company is managed in order to achieve its objectives.

The high level of corruption in every sector coupled with mismanagement across different tiers of government in Nigeria necessitates the need to align with international best practices. This led the Securities and Exchange Commission (SEC) in 2002 to collaborate with the Corporate Affairs Commission to set up a committee to identify weaknesses in the corporate governance practices in Nigeria and come up with necessary recommendations to improve corporate governance in Nigeria. (Institute of Chartered Accountants Nigeria, 2007). In 2018, ICAN called for protection of private investors and independent non-executive directors and non-executive directors that chair oversight committees; that they ought not to be excluded in the corporate governance code as released by the Financial reporting Council of Nigeria. Ogbechie (2010) stated that board of directors could be subdivided into board size, board leadership, board composition, board independence, board diversity and board culture. Board size refers to the total number of directors on the board of any corporate organisation. Proponents of large board size opined that it provides an increased pool of expertise because larger boards are likely to have more knowledge at their disposal. The code of best practices of corporate governance stipulates that audit committee should be established with the key objective of raising the standard of corporate governance and should be composed of strong and independent persons (ICAN, 2007). The commonest number of the audit committee members is often five to six members.

2.1.3 Environmental Reporting

According to Beredugo and Mefor (2012), environmental reporting is very important as it leads to improvement in the decision making quality, ensures that organizations establish standards and set targets that will promote sustainability of the economy. The unsustainable consumption of Nigeria’s natural resources and production patterns calls for more action on the part of all stakeholders in Nigeria. The laws and standards relating to protection, management and preservation of the environment appear to be handled with levity. The information which should be contained in environmental reports is necessary for accountability, comparability and probity, but when not made available; it could discourage patronages from consumers, bankers, suppliers, local and foreign investors and host communities.

Chartered Institute of Management Accountants (CIMA) defined environmental reporting as the public disclosure of information concerning an entity’s environmental performance and it makes organisations appear more accountable for the economic, environmental and social consequences of their activities. Environmental disclosure is not serious enough in the developing countries when compared with their foreign counterparts. This portends danger to the environment especially as the environmental reporting practice is voluntary and tends to be carried out haphazardly and in a random manner. There are positive indicators of environmental reporting practices among companies and business organisations in developed countries as they actively make environmental disclosure in their annual financial statements.
A study by Uwuigbe and Jimoh (2012) supports the outlook that environmental reporting is not considered as paramount in developing countries such as Nigeria. The authors indicated that most companies in Nigeria mainly disclose information related to products and consumers, employees and community involvement but contains very little quantifiable data which in itself is not sufficient. Akhaiyeka (2012) added that organisations are expected to include all expenditure related to wastes treatment, pollution control and abatement in their annual reports.

2.1.4 Corporate Governance and Environmental Reporting

Environmental reporting and disclosure is more than merely reporting financial information but it covers responsibilities of the firms to the environment (Gray, Owen & Maunder, 1987). It involves ensuring effective corporate governance practices that incorporate transparency in environmental best practices. An average Nigerian cares less about environmental happenings or activities of companies as regards pollution. The poverty level is so high that many are mainly interested in daily survival of feeding self and family. Ensuring effective and sound corporate governance practices that would enhance sustainability, leading to the country’s economic growth and development is also a major challenge for Nigerian companies.

Listed companies in Nigeria are under more public scrutiny than ever before and are obliged to disclose information regarding their environmental operations after the adoption of International Financial Reporting Standards (IFRSs). Disclosure on environmental performance helps firms to gain stakeholders’ confidence, isolate probable dangers and to mitigate the impact of polluting firms’ activities on the environment. The effect of companies’ operations on the neighbours, environment, employees, host community and consumers cannot be over-emphasized. The long time survival of companies would be enhanced when outcomes or possible outcomes are made known to all the relevant stakeholders including regulators, the media and shareholders (Adams & Zutshi, 2004).

2.1.5 Board Attributes and Environmental Reporting

On board size and environmental reporting, Naseer and Rashid (2018) opined that board size determines the firm’s performance from the perspective of agency theory. For information disclosure, a smaller board size ensures better coordination, efficiency, effective monitoring, governance, communication, and strong cohesion (Prado-Lorenzo & Garcia-Sanchez, 2010; Barako et al. 2006; Florackis & Ozkan, 2004; Yoshikawa & Phan, 2003). Authors such as Xie, Davidson and DaDalt (2003) are of the view that larger board is characterized by more qualified and knowledgeable individuals with effective reporting skills and voluntary environmental disclosure.

On board independence and environmental reporting, Naseer and Rashid (2018) noted that presence of independent non-executive directors on the board effectively monitors the activities of company, stimulating objectivity and autonomy within the board which is in line with the agency theory. When a board is independent, conflicts would be minimal among shareholders and management which will automatically reduce agency cost. According to Rao, Tilt and Lester (2012), boards having more independent non-executive directors appear to take more forceful stance toward environmental issues thereby ensuring managers take favourable decisions regarding the firm’s environmental performance.
Institutional shareholders are considered powerful stakeholders because they generally hold large shares, and thus, large voting rights (Masud, Nurunnabi & Bae, 2018). It is the form of ownership concentration computed as the percentage of shares held by institutional shareholders comprising banks, pension funds, endowment funds, mutual funds and insurance companies, etc. (Lakhal, 2005). They expect transparency, accountability and responsible behaviour over voluntary corporate environmental disclosure. Some authors argued however that the efficacy and effectiveness of board is reduced due to the presence of institutional investors.

CEOs are seen as one of the significant determinants influencing the corporate environmental reporting (Naseer & Rashid (2018). CEO duality may reduce the efficiency of the board in screening management activities (Agrawal & Chadha, 2005). Jensen & Meckling, 1976 proposed discrete leadership structure on the basis of agency theory. Board independence reached by distinct leadership may promote effective environmental and social reporting of the companies, thus protecting interest of the stakeholders. Board diversity in terms of proportion of women on the board have significant impact on firm performance and disclosure in both financial and nonfinancial transparency and accountability, independence, diligence, commitment, philanthropy, effective contribution toward attaining the company’s goals and a greater commitment toward corporate environmental reporting (Adams & Ferreira, 2004; Rao et al. 2012; Hussain et al. 2016; Naseer & Rashid, 2018).

The main purpose of board committees is to monitor the entire critical operations of the business such as the audit process, the auditor’s independence, the internal control and accounting system, the nomination and remuneration of the board directors, thus ensuring a continuous communication between the external auditor and the company’s board (Rahman & Ali, 2006). An audit committee with independent members’ strengthens the committee to carry out its functions without bias, thus tremendously contributing to the committee’s effectiveness (Ho & Wong, 2001). Agency theory advocates the audit committee as an instrument of mitigating agency costs (Naseer & Rashid, 2018). Aburaya (2012) found a positive association between audit committee independence and the reporting quality of certain environmental categories such as policies concerning environment, adherence with environmental legislations and other environmental information.

2.2 Theoretical Review

2.2.1 Agency theory

Agency theory developed by Jensen and Meckling (1976) explained the relationship between the owners (shareholders) and management in which owners appoint management to serve best on their behalf. Harjoto and Jo (2011) provided a framework for the link between corporate governance variables influence on the extent of corporate environmental disclosure. Conflicts often arise however over the goals of the owner and agent due to managers’ inclination toward controlling business policy and strategy to enhance their short-term interests, rather than to make long-term decisions (Masud et al. 2018). Agency theory suggests that an institutional owner can closely monitor management and encourage them to disclose more information, including environmental information (Ntim & Soobaroyen, 2013). Active and competent board of directors can reduce agency challenges through monitoring, supervision and controlling of company’s interests and goals in respect of environmental
issues. Hence, from the perspective of agency theory it is hypothesized in this study that the relationship between board size and environmental disclosure would be negative.

2.2.2 Legitimacy theory

Legitimacy theory propounded by Freeman (1984) averred that the organization and society closely work for each other, and this relationship is based on the notion of a “social contract” (Gray et al., 1987). It is a method of showcasing, communicating and representing a company to various stakeholders. According to Suchman (1995), on the one hand, two types of legitimacy exist: strategic and institutional. Strategic legitimacy focuses on the organization’s motives and desires. Clarkson, Fang, Li, & Richardson (2013) opined that legitimacy is a combination of reactive and proactive strategies. Legitimacy enhances opportunities to attract economic resources, ensure social and political support and mitigate threats from external pressures. It is threatened when companies breach their social contracts (e.g., environmental protections).

2.2.3 Stakeholder Theory

Stakeholder theory has been widely employed for both corporate social and environmental disclosure practices and corporate governance mechanisms. It involves the recognition and identification of the relationship between the company's behaviour and the impact on its stakeholders (Ansoff, 1965). Stakeholder theory assumed that values are a necessary part of doing business and rejects the separation of ethics and economics (Freeman, 1994).

2.3 Empirical Review

Chariri, Nasir, Januarti and Daljono (2019) examined the effect of institutional ownership, audit committee, and types of industry on environmental investment in Indonesia. Findings revealed that environmental investment was significantly affected by types of industry but institutional ownership and audit committee did not influence environmental investment. Welbeck et al. (2018) investigated the determinants of environmental disclosures by firms in Ghana. Using the Global Reporting Initiative (GRI) index as a benchmark, a content analysis of the corporate annual report of 17 firms listed on the Ghana Stock Exchange (GSE) was conducted over a 10-year period (2003 to 2012) to determine the total environmental disclosure scores of the sampled firms. The study revealed that firm size, auditor type, age of the firm and industry type are significant predictors of firms’ environmental disclosure practices.

Naseer and Rashid (2018) empirically examined the relationship between corporate governance (CG) characteristics and environmental reporting of firms in Pakistan, through the lens of stakeholder and agency theories. The annual reports of 50 non-financial companies listed on Pakistan Stock Exchange (PSX) for the years 2014-2015 were analyzed to compute the companies’ environmental reporting practices. Findings showed that larger board size, higher proportion of independent non-executive directors on the board, partition of the dual role of chairman and CEO and institutional ownership is associated with greater environmental reporting. Masud et al. (2018) studied three South Asia countries (Bangladesh, India, and Pakistan) and 88 listed organizations’ sustainability reports from 2009–2016 from the Global Reporting Initiative (GRI) database to explore the effect of corporate governance
(CG) elements on environmental sustainability reporting performance (ESRP). Their empirical results indicated ESRP had positive association with foreign and institutional ownership, board independence, and board size. Moreover, director share ownership significantly related with ESRP however there was no association between ESRP and family ownership, female directorship, CSR and environmental committees.

Yousra (2018) conducted an empirical analysis on the impact of corporate characteristics on environmental information disclosure on the Egyptian listed firms. The study selected 50 most active firms in the Egyptian stock exchange from the disclosure book for the period 2007-2011, along with the firms’ annual reports. The final count for the firms was 45, after excluding banks and insurance companies, for having different disclosure requirements and different corporate governance code. The study found that there was an insignificant relationship between Firm Size and Firm Financial Leverage and EID, while Firm’s age showed a negative significant relationship with EID and finally Firm’s Profitability showed a positive significant relationship with EID. Akrout and Othman (2016) examined the association of ownership structure with the environmental disclosure of listed companies in the Middle Eastern and North African (MENA) emerging markets. A self-constructed environmental disclosure score based on the framework of the Global Reporting Initiative (GRI) was used for a sample of 347 annual reports. The multivariate analysis shows that there is a negative association between family ownership and environmental disclosures. However, the presence of the government ownership is likely to improve corporate environmental reporting practice.

Igbekoya and Agbaje (2018) examined the effect of corporate governance on the quality of accounting information disclosed in Nigerian banks. The study covered listed banks on the Nigeria Stock Exchange for 2006-2015. The study revealed that ACM, ACQ, BS, DAC and OS had a significant positive relationship with accounting information disclosure at 1% and 5% level of significance respectively, while it was discovered that CBM had a negative relationship but was insignificant. It is concluded from the findings of the study that corporate governance contributes to the quality of accounting information disclosed in the banking sector. Aliyu (2018) investigated the relationship between corporate governance variables, namely, board size, board independence, board meeting, risk management committee composition and corporate environmental reporting in Nigeria. The study utilized the data obtained from the annual reports of 24 non-financial public listed companies in the Nigeria Stock Exchange comprising three sectors, namely, industrial goods, natural resources and oil & gas for the period of 2011–2015. The result indicated a positive significant relationship between board independence and corporate environmental reporting. Similarly, a positive significant relationship between board meeting and corporate environmental reporting is revealed in the study. However, there is no significant relationship between other variables and corporate environmental reporting. The adopted control variables (profitability and company size) showed no significance with environmental reporting.

Egbunike and Tarilaye (2017) examined the association between firm’s specific attributes (firm size, earnings, leverage and governance) and voluntary environmental disclosure with evidence from listed manufacturing companies in Nigeria. Data collected were analyzed using both descriptive and inferential statistics. From the conducted robust regression analysis, it was revealed that there is a positive relationship between environmental disclosure, firm size, leverage, earnings per share and governance of the studied manufacturing companies in Nigeria.

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Ndukwe and Onwuchekwa (2015) conducted a study on determinants of environmental disclosures in the Nigerian oil and gas companies using cross-sectional research design. The finding revealed that there was a significant relationship between company size and corporate social responsibility disclosures; no significant relationship between profit and corporate social responsibility disclosures; no significant relationship between leverage and corporate social responsibility disclosures and no significant relationship between audit firm type and corporate social responsibility disclosures. Mgbame and Onoyase (2015) conducted a study on the effect of corporate governance on the extent of environmental reporting in the Nigerian oil industry. The study made use of board size, board independence, and audit committee independence to proxy for corporate governance. The findings of the study showed that board size, board independence, audit committee independence and managerial ownership concentration have positive and significant relationship with environmental reporting. Previous studies as regards effect of corporate governance on environmental reporting have been examined both outside and within Nigeria. However, most of the researches in Nigeria focused on oil & gas and manufacturing sector of the country. Only few studies locally combined the robust corporate governance variables with control variables as contained in this study.

3. METHODOLOGY

3.1 Model Specification

The study assessed the effect of corporate governance on the environmental reporting of quoted consumer goods companies in Nigeria. The model of Mgame and Onoyase (2015) was adopted and modified for this study. The original model was specified as follows:

$$ENVREP = f(OWNCON, BSIZE, BIND)$$ ................................................................. 1

Specifying it in econometric form, we have;

$$ENVREP_i = \beta_0 + \beta_1 BSIZE_i + \beta_2 BIND_i + \beta_3 OWNCE_i + \mu_i$$ ......................................................... 2

Where:

ENVREP = environmental reporting; OWNCON = Ownership Concentration
BSIZE = Board Size; BIND = Board Independence; \( \beta_0 \) = The intercept/mean of the equation \( \beta_1 \) to \( \beta_3 \) = The coefficients of the variables to be estimated; \( \mu \) = The error term

From the model adopted, all the independent variables were retained and proportion of female directors on the board, CEO duality, audit committee independence and control variables (firm size, leverage and profitability) were included to improve the robustness of the study. The modified version of the model becomes:

$$ENVREP = f(BSIZE, BIND, INSTOWN, FEMDIR, CEOD, ACI, FSIZE, LEV, PROF)$$ ….. 3

Specifying it in econometric form, we have;

$$ENVREP_i = \beta_0 + \beta_1 BSIZE_i + \beta_2 BIND_i + \beta_3 INSTOWN_i + \beta_4 FEMDIR_i + \beta_5 CEOD_i + \beta_6 ACI_i + \beta_7 FSIZE_i + \beta_8 LEV_i + \beta_9 PROF_i + \mu_i$$ .......................................................... 4
Where:
ENVREP = Environmental Reporting; INSTOWN = Institutional Ownership; BSIZE = Board Size; BIND = Board Independence; FEMDIR = Presence of Female Director on Board
CEOD = CEO Duality; ACI = Audit Committee Independence; FSIZE = Firm Size
LEV = Leverage; PROF = Profitability; $\beta_0$ = The intercept/mean of the equation
$\beta_1$ to $\beta_5$ = The coefficients of the variables to be estimated; $\mu$ = the error term

The a priori expectations are: $\beta_1$, $\beta_2$, $\beta_3$, $\beta_4$, $\beta_5$, $\beta_6$, $\beta_7$, $\beta_8 > 0$ this implies that the variables 1-8 were expected to have a positive relationship with the dependent variable.
3.2. Measurement of variables

**Table 1: Research Variables Definition/Measurement**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Acronyms</th>
<th>Operationalization</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent variable</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental reporting</td>
<td>ENVREP</td>
<td>Environmental reporting was measured using content analysis. The selected explanatory variables were Compliance Disclosure (i.e. Total monetary value of fines for non-compliance to environmental laws) and Disclosure on Emissions and Wastes (i.e. Ratio of Waste to Production and Total weight or volume of hazardous waste generated.)</td>
</tr>
<tr>
<td><strong>Independent variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Board size</td>
<td>BSIZE</td>
<td>Total number of directors on the board of the organisation.</td>
</tr>
<tr>
<td>Board Independence</td>
<td>BIND</td>
<td>% of the independent directors on the board of the company.</td>
</tr>
<tr>
<td>Ownership Concentration (institutional ownership)</td>
<td>INSTOWN</td>
<td>The proportion of shares owned by the managers of the company.</td>
</tr>
<tr>
<td>Presence of Female Directors</td>
<td>FemDIR</td>
<td>Total number of Female directors on the board of the organisation.</td>
</tr>
<tr>
<td>CEO Duality</td>
<td>CEOD</td>
<td>The CEO and Board Chairman position were held by same person.</td>
</tr>
<tr>
<td>Audit Committee Independence</td>
<td>ACI</td>
<td>Proportion of independent non-executive directors on the audit committee</td>
</tr>
<tr>
<td><strong>Control Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm Size</td>
<td>FSIZE</td>
<td>The firm's size was measured by the average book value of total assets at the end of each financial year from 2008 to 2018 has been used as the proxy for size.</td>
</tr>
<tr>
<td>Leverage</td>
<td>LEV</td>
<td>Leverage was measured by the ratio of total debt to equity at the end of each financial year from 2008 to 2018.</td>
</tr>
</tbody>
</table>
Profitability was measured as average of return on total assets (ROA) of each financial year during 2008 to 2018. ROA = Net Profit after tax / Total assets.

Source: Authors’ compilation (2019)

The research design for this study was ex-post facto research design while the population of the study was made up of all the quoted consumer goods company on the Nigerian Stock Exchange (NSE) as at 2019. Sample size of this study comprised 20 listed consumer goods firms spanning from 2008 to 2018. Justification for selection of 20 consumer goods firms was based on data availability. Their years of incorporation and years of listing are as follows:

<table>
<thead>
<tr>
<th>S/N</th>
<th>Company Name</th>
<th>Year of Incorporation</th>
<th>Year of Listing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>FLOURMILLSOFNIGERIAPLC</td>
<td>1960</td>
<td>1979</td>
</tr>
<tr>
<td>2</td>
<td>N.N.FLOUR MILLS.PLC</td>
<td>1971</td>
<td>1978</td>
</tr>
<tr>
<td>3</td>
<td>DANGOTESUGARREFINERYPLC</td>
<td>2005</td>
<td>2007</td>
</tr>
<tr>
<td>4</td>
<td>MULTI-TREXPLC</td>
<td>1999</td>
<td>2010</td>
</tr>
<tr>
<td>5</td>
<td>HONEYWELLFLOURPLC</td>
<td>2008</td>
<td>2009</td>
</tr>
<tr>
<td>6</td>
<td>DANGOTEFLOURMILLSPLC</td>
<td>2006</td>
<td>2008</td>
</tr>
<tr>
<td>7</td>
<td>CADBURY NIGEIA PLC</td>
<td>1965</td>
<td>Not available</td>
</tr>
<tr>
<td>8</td>
<td>CHAMPION BREWERY PLC</td>
<td>1974</td>
<td>1983</td>
</tr>
<tr>
<td>9</td>
<td>DN TYRE &amp; RUBBER PLC</td>
<td>1961</td>
<td>Not available</td>
</tr>
<tr>
<td>10</td>
<td>GOLDEN GUINEA BREWERY PLC</td>
<td>1962</td>
<td>Not available</td>
</tr>
<tr>
<td>11</td>
<td>GUINESS NIGERI PLC</td>
<td>1962</td>
<td>Not available</td>
</tr>
<tr>
<td>12</td>
<td>INTERNATIONAL BREWERIES PLC</td>
<td>1971</td>
<td>Not available</td>
</tr>
<tr>
<td>13</td>
<td>MCNICHOLS PLC</td>
<td>2004</td>
<td>2009</td>
</tr>
<tr>
<td>14</td>
<td>NASCON ALLIED INDUSTRIES PLC</td>
<td>1973</td>
<td>1992</td>
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<tr>
<td>15</td>
<td>NESTLE NIGERIA PLC</td>
<td>1969</td>
<td>1979</td>
</tr>
<tr>
<td>16</td>
<td>NIGERIAN BREWERY PLC</td>
<td>1946</td>
<td>1973</td>
</tr>
<tr>
<td>17</td>
<td>NIGERIAN ENAMELWARE PLC</td>
<td>1960</td>
<td>1979</td>
</tr>
<tr>
<td>18</td>
<td>PZ CUSSONS NIGERIA PLC</td>
<td>1948</td>
<td>Not available</td>
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<tr>
<td>19</td>
<td>UNILEVER NIGERIA PLC</td>
<td>1923</td>
<td>1973</td>
</tr>
<tr>
<td>20</td>
<td>UNION DICON SALT PLC</td>
<td>1991</td>
<td>1993</td>
</tr>
<tr>
<td>21</td>
<td>VITAFOAM NIG PLC</td>
<td>1962</td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors’ compilation (2019)

3.3 Nature, Sources of Data and Estimation Techniques

This study used panel data which covered a period of 11 years, 2008-2018. The data were secondary in nature and were obtained from the annual financial reports of the selected companies. The study made use of both descriptive and inferential statistical tools of analysis. The inferential statistics used was panel regression analysis. To estimate the models specified, Corresponding Author: +2348030742618
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both the Fixed Effect Model (FEM) and Random Effect Model (REM) i.e. (Error Composite Model) estimation technique using Hausman test were employed.

4. DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Descriptive Statistic

Table 3 presents the descriptive statistic of the variables that includes (mean, standard deviation, maximum value, minimum value) for both the dependent and the independent variables. The dependent variable is environmental reporting (ENVREP) while the independent variable is corporate governance proxy with variables such as; Board size (BSIZE), Board independence (BIND), ownership concentration (INSTOWN), presence of female (FemDIR), CEO duality role (CEOD) and audit committee independence (ACI) from 2008- 2018.

Environmental reporting measured through the use of dummy variable has an average value of 0.68 with a standard deviation of 0.46, and minimum and maximum value of 0 and 1 respectively. The standard deviation of 0.46 implies that there is a low dispersion of the data from the mean value. This reflects the presence of moderate variation across the sampled firms. The average number of board size of sampled firms is 10.527; with a minimum and maximum value of 6 and 19 respectively, while the standard deviation is 3.1124 variations from the average value, which reflects the presence of moderate variation across the sampled firms. The average value of institutional ownership of sampled firms is 0.5939; with a minimum and maximum value of 0.1259 and 0.811 respectively, while the standard deviation is 0.1785 variations from the mean value, which reflects the presence of moderate variation across the sampled firms.

The average value of independent directors measured with percentage of independent director in board composition of sampled firms is 0.6367; with a minimum and maximum value of 0.25 and 0.8571 respectively, while the standard deviation is 0.1281 variations from the mean value, which reflects the presence of moderate variation across the sampled firms. The average value of female presence in board composition measured with percentage of female directors in board composition of sampled firms is 0.1174; with a minimum and maximum value of 0 and 0.5 respectively, while the standard deviation is 0.1090 variations from the mean value, which reflects the presence of moderate variation across the sampled firms.

The average value of CEO duality role of sampled firms is 0.2467; with a minimum and maximum value of 0 and 1 respectively, while the standard deviation is 0.2325 variations from the average value, which reflects the presence of moderate variation across the sampled firms. On the other hand for the control variables, average value for firm size, leverage and profitability is 16.006, 0.4209 and 0.0815; with a minimum 12.011, 0.0790, 0.0151 and maximum of 19.912, 0.9385 and 0.4801 respectively. The standard deviation for firm size (1.5287), leverage (0.1293) and profitability (0.0815) variations from the mean value, reflects the presence of moderate variation across the sampled firms.
Table 3: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVREP</td>
<td>220</td>
<td>0.6800</td>
<td>0.4680</td>
<td>0.0000</td>
<td>1.0000</td>
</tr>
<tr>
<td>BSIZE</td>
<td>220</td>
<td>10.527</td>
<td>3.1124</td>
<td>6.0000</td>
<td>19.000</td>
</tr>
<tr>
<td>INSTOWN</td>
<td>220</td>
<td>0.5938</td>
<td>0.1745</td>
<td>0.1259</td>
<td>0.8110</td>
</tr>
<tr>
<td>CEOD</td>
<td>220</td>
<td>0.2467</td>
<td>0.2325</td>
<td>0.0000</td>
<td>1.0000</td>
</tr>
<tr>
<td>CDR</td>
<td>220</td>
<td>0.6367</td>
<td>0.1281</td>
<td>0.2500</td>
<td>0.8571</td>
</tr>
<tr>
<td>FemDIR</td>
<td>220</td>
<td>0.1174</td>
<td>0.1090</td>
<td>0.0000</td>
<td>0.5000</td>
</tr>
<tr>
<td>ACI</td>
<td>220</td>
<td>91.2</td>
<td>15.1</td>
<td>33.3</td>
<td>100</td>
</tr>
<tr>
<td>LEV</td>
<td>220</td>
<td>0.4209</td>
<td>0.1293</td>
<td>0.0790</td>
<td>0.9385</td>
</tr>
<tr>
<td>PROF</td>
<td>220</td>
<td>0.0828</td>
<td>0.0815</td>
<td>0.0151</td>
<td>0.4801</td>
</tr>
</tbody>
</table>

Source: Authors’ Computations, (2019)

4.2 Multicollinearity Test

In table 4, the variance inflation factor of multicollinearity violates the assumption of estimation techniques. From the result, the value of independent variables exceeded 1, therefore, there is absence of multicollinearity. Hence, there are no multicollinearity issues between the independent variables within this model as all the VIF’s are less than 10.

Table 4: Multi-collinearity Test - Variance Inflation Factors

<table>
<thead>
<tr>
<th>Variable</th>
<th>VIF</th>
<th>1/VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSIZE</td>
<td>1.58</td>
<td>0.6343</td>
</tr>
<tr>
<td>BIND</td>
<td>1.39</td>
<td>0.7172</td>
</tr>
<tr>
<td>INSTOWN</td>
<td>1.31</td>
<td>0.7648</td>
</tr>
<tr>
<td>FemDIR</td>
<td>1.24</td>
<td>0.8041</td>
</tr>
<tr>
<td>CEOD</td>
<td>1.19</td>
<td>0.8426</td>
</tr>
<tr>
<td>ACI</td>
<td>2.01</td>
<td>0.4975</td>
</tr>
<tr>
<td>FSIZE</td>
<td>1.82</td>
<td>0.5494</td>
</tr>
<tr>
<td>LEV</td>
<td>3.45</td>
<td>0.2899</td>
</tr>
<tr>
<td>PROF</td>
<td>1.95</td>
<td>0.5128</td>
</tr>
<tr>
<td>Mean VIF</td>
<td>1.77</td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors’ Computations, (2019)

4.3 Heteroskedasticity Test

The study used Breusch-pagan test to check if there is problem of heteroskedasticity. The result of P-value (0.2076) is greater than 5% significant level, the null hypothesis was rejected. The model does not have heteroskedasticity problem. This implies that the variations between independent variables are fairly small.

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Table 5: Breusch-Pagan/ Cook-Weisberg Test for Heteroskedasticity

<table>
<thead>
<tr>
<th>Variable</th>
<th>Chi²</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>1.95</td>
<td>0.2076</td>
</tr>
</tbody>
</table>

Source: Authors’ Computation, (2019)

4.4 Hypotheses Testing: Regression Results

Table 5 shows the linear relationship between corporate governance and environmental reporting of consumer goods companies in Nigeria, with the use of panel regression analysis. The table shows the result of the pooled OLS, fixed-effects and random-effects of the model and post estimation test of Breusch and Pagan Lagrangian multiplier test (poolability test) and Hausman test. Poolability test was conducted with the use of Breusch and pagan Lagrangian multiplier test to check the model that is appropriate between pool OLS model and random-effects model, the result shows that random-effects is appropriate for the two model as indicated by P-value 0.000 at 0.05 significance level.

Hausman test was also computed to check which model is appropriate between fixed-effects and random-effects, the result shows that fixed-effects model is appropriate for the model as indicated by P-value (0.0002) less than 0.05 level of significant. The results obtained from the model indicates that the overall coefficient of determination R-squared (R²) of the model shows that the equation has a good fit with 54% of systematic variations in environmental reporting is explained by the independents variables in the equation,

In terms of the sign of the coefficient that signify the impact of corporate governance on environmental reporting of consumer goods companies in Nigeria, all variables concur with a priori expectation with positive sign, this implies a direct relationship exist between dependent variables and environmental reporting indicators. The objectives of the study were achieved by the sign and magnitude of the coefficient of each variable.

The first objective of the study was achieved. The signs and magnitude of board size (BSIZE) which had positive significant effect on environmental reporting of consumer goods companies in Nigeria, as indicated by coefficient (0.1016) with P-value (0.009) less than 0.05 significance level. The null hypothesis was rejected; this implies that 1% increase in the board size of consumer goods companies in Nigeria will induce 1.0% improvement in the environmental reporting. The second objective was also achieved. The signs and magnitude of board independence (BIND) had positive significant effect on environmental reporting of consumer goods companies in Nigeria, as indicated by coefficient (0.3907) with P-value (0.000) less than 0.05 significant level. The null hypothesis was also rejected; this implies that 1% increase in the number of board independence of consumer goods companies in Nigeria will induce 3.9% improvement in the environmental reporting.

Similarly, the third objective of the study achieved the signs and magnitude of ownership concentration (INSTOWN) which also had positive significant effect on environmental reporting of consumer goods companies in Nigeria, as indicated by coefficient (2.3894) with P-value
(0.014) less than 0.05 significance level. The null hypothesis was also rejected; this implies that 1% increase in the ownership concentration of consumer goods companies in Nigeria will induce 2.39% improvement in the environmental reporting. The fourth objective of the study achieved the signs and magnitude of females on the board of director (FemDIR) which had no significant effect on environmental reporting of consumer goods companies in Nigeria, as indicated by coefficient (0.0019) with P-value (0.594) higher than 0.05 significant level. The null hypothesis was accepted; this implies that proportion of female directors in the board composition has no significant impact on the environmental reporting of consumer goods companies in Nigeria.

Furthermore, the fifth objective of the study was achieved. The signs and magnitude of CEO duality role (CEOD) had no significant effect on environmental reporting of consumer goods companies in Nigeria, as indicated by coefficient (0.0054) with P-value (0.585) higher than 0.05 significant level. The null hypothesis was accepted; this implies that separation of CEO role from that of the Board Chairman had no significant impact on the environmental reporting of consumer goods companies in Nigeria. The sixth objective of the study was achieved. The signs and magnitude of audit committee independence (ACI) had no significant effect on environmental reporting of consumer goods companies in Nigeria, as indicated by coefficient (0.0020) with P-value (0.064) higher than 0.05 significant level. The null hypothesis was accepted; this implies that audit committee independence has no significant impact on the environmental reporting of consumer goods companies in Nigeria.

Finally, an evaluation of the coefficients of the control variables showed the existence of positive relationship between FSIZE (0.1212), LEV (0.3623), PROF (1.123) and environmental reporting. This implies that all the control variables positively influenced environmental reporting. However, the relationship are statistically significant at 1% and 5% level (p=0.000<0.01, 0.05) for FSIZE, 1% and 5% level (p=0.015<0.01, 0.05) except PROF (p=0.434>0.01, 0.05, 0.1). Overall, the result of the F-stat (13.28) with P-value (0.0000) at 5% level of significant, this implies that corporate reporting of consumer goods companies in Nigeria have significant effect on environmental reporting.
Table 5: Corporate Governance and Environmental Reporting

<table>
<thead>
<tr>
<th>Variables</th>
<th>ENVREP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pooled OLS Model</td>
</tr>
<tr>
<td>Constant</td>
<td>0.0624 (0.775)</td>
</tr>
<tr>
<td>BSIZE</td>
<td>0.0653*** (0.000)</td>
</tr>
<tr>
<td>BIND</td>
<td>0.4735** (0.019)</td>
</tr>
<tr>
<td>INSTOWN</td>
<td>0.3041*** (0.000)</td>
</tr>
<tr>
<td>CEO</td>
<td>0.4570 (0.136)</td>
</tr>
<tr>
<td>FemDIR</td>
<td>0.0407 (0.775)</td>
</tr>
<tr>
<td>ACI</td>
<td>0.4735** (0.119)</td>
</tr>
<tr>
<td>FSIZE</td>
<td>0.2011*** (0.023)</td>
</tr>
<tr>
<td>LEV</td>
<td>0.6271* (0.063)</td>
</tr>
<tr>
<td>PROF</td>
<td>0.0503 (0.705)</td>
</tr>
<tr>
<td>F-stat</td>
<td>16.38*** (0.0000)</td>
</tr>
<tr>
<td>R-square (R²)</td>
<td>0.7625</td>
</tr>
<tr>
<td>Error term (S.E)</td>
<td>0.1801</td>
</tr>
<tr>
<td>Hausman Test</td>
<td></td>
</tr>
<tr>
<td>Breush and Pagan Lagrangian Multiplier Test</td>
<td>50.42*** (0.0000)</td>
</tr>
</tbody>
</table>

*: **: *** : denotes Significant at 10%, 5% and 1% level respectively.
Bracket: denotes P-value, while the value denotes Coefficients

Source: Authors’ Computation, (2019)

4.5 Discussion of Findings

From the results obtained, board size had positive significant effect on environmental reporting of consumer goods companies in Nigeria. This result is consistent with the findings of Masud et al.(2018); Mgbame and Onoyase (2015); whose results gave a direct connection between the size of a board and the level of environmental reporting, advocating that larger
board acquires the needed skills and incurs more efficient reporting system to ensure sound environmental disclosure, but against the result of Aliyu (2018); Yousef (2017); Oba and Fodio (2012); Bouaziz (2012) as the study found negative or no significant effect between the variables. The result also supports stakeholder theory. Board independence had positive significant effect on environmental reporting of consumer goods companies in Nigeria. This result agrees with the findings of Masud et al. (2018); Mgbame and Onoyase (2015); Kuwara and Abdulrahman (2014) but contrary to the result of Kurawa and Kabara (2014) and Bouaziz (2014). The results are in line with the stakeholder and agency theory argument that voluntary disclosure practices of the firms are more likely to improve with an increase in the percentage of independent non-executive directors.

Furthermore, ownership concentration proxy by institutional ownership had positive significant effect on environmental reporting of consumer goods companies in Nigeria. This result is in line with the findings of Masud et al. (2018); Mgbame & Onoyase (2015) but against the result of Kurawa & Kabara (2014) and Giannarakis (2014) as the study found negative or no significant effect between the variables. The result also supports Stakeholder theory. In addition, females on the board have no significant effect on environmental reporting of consumer goods companies in Nigeria. This result is consistent with the findings of Rao et al. (2012) as the study also found no significant relationship, but did not agree with the findings of Giannarakis (2014). This finding is against the stakeholder theory. CEO duality had no significant effect on environmental reporting of consumer goods companies in Nigeria. This result is consistent with the findings of Jamila et al. (2016) and Bouaziz (2014) as the study also found no significant relation, but against the result of Naseer and Rashid (2018); Mgbame and Onoyase (2015); Kurawa & Abdulrahman (2014) as the study found significant effect between the variables. The results of the study are in tandem with the stakeholder-agency theory that separate leadership structure offers the required control to improve the management’s actions. The audit committee independence appeared to have no significant association with environmental reporting. The result is in line with previous evidence provided in the studies of Djuminati et al. (2017); Ho and Wang (2001) but not consistent with the findings of Chariri et al. (2010); Naseer and Rashid (2018).

The control variables- firm size, leverage and profitability used in this study were justified by the findings of companies with various distinct characteristics. The results revealed a positively significant relationship between firm size and environmental reporting, consistent with the ones found in previous studies of Welbeck et al. (2018); Abubakar (2017). Leverage (LEV) is positively but not significantly associated with environmental reporting, which is consistent with the results of Matta (2017); Abubakar (2017); Suleiman et al. (2014); Haniffa and Cooke (2005).

5. CONCLUSION AND RECOMMENDATIONS

The study concluded that corporate governance contributes significantly to environmental reporting of consumer goods companies in Nigeria. With the evaluation of individual component of corporate governance, the study concluded that board size, board independence, and ownership concentration of consumer goods companies positively and significantly influence
environmental reporting in Nigeria. The proportion of female on board composition and CEO duality of consumer goods companies do not contribute significantly to environmental reporting in Nigeria. Based on findings, the study recommends that:

i. Adequate and active board members making up the board size should be maintained by Nigerian consumer goods companies in order to improve environmental reporting while passive directors should be replaced.

ii. Consumer goods companies in Nigeria should appropriately accommodate more of independent directors in board composition in order to contribute more to environmental reporting.

iii. Adequate concentration of institutional ownership of consumer goods companies should be maintained in order to improve environmental reporting in Nigeria.

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