

Environmental Reporting Practices in Select Listed Companies in Nigeria: A Study

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Abstract

The study aims to identify the extent and types of environmental disclosures of public listed companies in Nigeria and to examine significant differences among the listed companies regarding the quality and quantity of such disclosures. Stakeholder and legitimacy theory was used for reporting environmental practices by reviewing 194 annual reports published in 2017-2018. The present study used descriptive statistics to study the characteristics of the research variables. Kruskal Wallis and Mann-Whitney tests were used to know whether there exist a significant differences among the listed companies regarding the quality of Quality of environmental disclosure. The study observed that 48% of the companies disclosed environmental information. Out of them 74% of the companies have been selected by using proportionate stratified random sampling. Results of the study indicate that companies disclosed more soft environmental information. Notably diversified companies disclose more environmental information followed by Banks, finance and insurance companies. The findings of the research could provide relevant insights both to the companies and government, the stakeholders and the regulators in order to device ways and means on how to move forward.

Keywords: Voluntary, Nigeria, Environmental Reporting

JEL Classification: E01

Introduction

Environmental issues are discussed as major aspect around the world because people believe their main concern is to protect the environment even at the expense of economic growth. Moreover, Earth Summit, Stakeholder Forum and Kyoto protocol are other attempts of the global community to protect the declining earth. As a result, most of the companies involve environmental performance and voluntarily disclose environmental information in their annual report, website, etc.

In this context, Nigeria is also not exceptional. Nigeria has undergone rapid industrialization since the early 1980s and the per capita income has almost double from 2006 to 2011 (Central Bank, 2011). Hydroelectricity, provided 70% of the country's electricity needs between 2000-2018, and this share has now been reduced to around 20%

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due to increased energy demands for households and emerging industries. Thermal power generation stood at around 80% in 2017 (Ileperumu, 2000). At the same time, petroleum consumption too has increased by 80% from 2002 to 2017 owing to the increased number of vehicle and power generation. According to Central Bank report (2016), the economy has also grown to 8.3% in 2017, which was the highest in Nigeria after independence and maintaining a growth rate more than 8% for the first time in two consecutive years. The result of this type of economic development may increase environmental pollution in Nigeria as Eljido-Ten (2009) indicated that rapid economic growth comes the price of environmental degradation as a downside to industrialization.

Therefore, Nigeria government implemented several policies by enacting acts to look after companies' activities for protecting environmental pollution. But, it is not mandatory to disclose companies' environmental performance via annual report or other media as the Government does not regulate laws relating to environment reporting. That is government does not have any special standard regarding environmental disclosures (Owolabi, 2008) whereas, Ibanichuka & James (2014) confirms that voluntary environmental reporting emerges in Nigeria.

Reports have indicated that users experience difficulties to cross-check the accuracy of the environmental information provided in the Annual Reports of listed companies under discussion. In developed countries, public access to specific information of corporate performance is available like the actual pollution discharge data from the US Environment Protection Agency's Toxic Release Inventory (TRI). However, this type of information is not publicly available in Nigeria. In addition, letters of warning, penalties, and court sanctions pertaining to environmental activities, which were issued to companies, are also unavailable to public. This implies that the general public has no way of accessing the information relating to the environmental performance of Nigeria companies unless voluntarily provided by those firms. It is questionable that variation in reporting practices due to lack of proper reporting regulations confuse the stakeholders to rely solely on the information provided by the companies for making decisions. This research study was necessitated to fill these gaps and therefore, contribute to the existing literature and academic knowledge in the focus area.

Theoretical Background of the Legitimacy theory

The theoretical perspective of this study is grounded under legitimacy theory. According to Suchman (1995), Legitimacy theory has become one of the most cited theories within the social and environmental accounting area. Legitimacy theory, at its simplest, argues that organizations can only continue to exist if the society in which they are based perceives the organization to be operating to a value system which is commensurate with the society's own value system which includes sustainable greener future (Gray, Kouhy, & Lavers, 1995). This theory is relevant for this study as it requires organization to account for environmental impacts which are associated with action of organizations. Therefore, in order to continue operating successfully, organizations must act within the bounds of what society identifies as socially acceptable behavior.

Wilmshurst & Frost (2000) believe that legitimacy theory provides an explanation for the management's motivation to reveal environmental information within the annual report. The Legitimacy theory further, states that organizations continually seek to ensure that they are perceived as operating within the bounds and norms of their respective societies (Lindblom, 1994). These bounds and norms are not considered to be fixed, but change over time (Islam & Deegan, 2008). Dowing & Pfeffer (1975) indicate that communication plays instrumental role to ensure legitimacy. The communication takes form of annual or environmental report and website disclosure. Legitimacy provides a general framework in which to examine how a firm responds to its environment and society. However within that society there are many groupings of individuals which are called as stakeholders (Cornier & Magnan, 2004).

Literature Review

Environmental accounting is “covering all areas of accounting that may be affected by the business response to environmental issue” (Gray & Bebbington, 2001). Berthelot, Cornier, & Magnan (2003) defined environmental disclosure as “the set of information items that relate to a firm's past, current and future environmental management activities and performance”. The present study has reviewed the existing literatures under the two broad categories: Quantity and quality of environmental disclosures. Quantity deals with ‘how much is being disclosed’ (Raar, 2007 cited in Alrazi, Villiers, & Staden, 2010). Quantity of environmental reporting is measured using number of words or number of sentences or number of pages or line counts or number of theme occurrence. Number of Sentences is better than words as sentence has clear meaning and reduces the subjectivity involved in interpretation of the environmental facts (Elijido-Ten, 2009). On the other hand, quality of reporting means type of data disclosed such as evidence (monitory, quantitative or declarative), news type (positive, negative or neutral) (Gray, Kouhy, & Lavers, 1995). It deals with ‘what is being reported’ (Darrell & Schwartz, 1997 cited in Alrazi, Villiers, & Staden, 2010) and ‘how the information is measured’ (Raar, 2007 cited in Alrazi, Villiers, & Staden, 2010).

KPMG (2011) has studied 3,400 companies about corporate responsibility (CR) reporting from 34 countries around the world including the largest 250 global companies based on fortune global 500 ranking. It has been reporting once in three years gap since 1993. According to the studies of KPMG, extent of CR (social and environmental) reporting has been increased to 100%, 99%, 94%, 83% and 759% in 2011 comparing with 91%, 93%, 59%, 74% and 62% of companies in 2018 in United Kingdom, Japan, France, United States America and Canada respectively, among others.

In United States, Razzed (2010) studied pattern of environmental disclosure (20 disclosures items) in internet verses annual report over the year 2000, 2004, 2008 in 102 listed companies. The study found that environmental disclosure has increased on the internet while it has decreased in the annual report. But, in the case of Australia, amount of environmental disclosures was higher than USA, Canada and UK in 1995 (Gibson & Guthrie, 1995) whereas its place was 23rd among the 3,400 companies in 2011 (KPMG,

2011). Industry specific study of mining companies in Australia, Tilt & Symes (1999) also affirmed that amount of environmental information increased due to environmental sensitive industry.

Nyahas, Ntayi, Kamukama, & Munene (2018) analyzed environmental disclosures in website as well as annual report of top 45 Indian companies as on 31 December, 2016. Out of the 45 companies, only 23 companies have disclosed environmental information in the website which range from 1 sentence to 129 sentences and average was 20 sentences. Moreover, there were significant differences among the companies regarding volume of the disclosure. Notably, diversified companies disclosed more information, which contrasts to the findings of Ahmed & Sulaiman (2004) that industrial sector, disclosed more environmental information. Of these 29 companies, 10 companies did not provide any environmental information in the annual reports. These 19 corporations issued the average of 14 sentences and ranged from 2 sentences to 41 sentences in annual report of 2003 – 2004. The reason to non-disclosing in annual report was to minimize printing cost. Eljido-Ten (2009) as cited in Ibanichuka & James (2014), examined quantity of environmental disclosure of companies' 2001 annual reports in Malaysia. The study reported that quantity of environmental disclosures ranged from 0 to 95 sentences with average 16.37 and median 9 sentences.

In Nigeria, Owolabi, (2008) found 44% of sample companies disclosed environmental information as the responsibility to protect the physical environment which may be affected by their operations. In addition, the study indicated that most of the companies disclosed qualitative information and this information was not sufficient to make better decision relating to environmental issues of the firm i.e. “disclosures seem to be self laudatory statements rather than qualitative information” (Owolabi, 2008). This result is consistent with the findings of Ranjani (2014). This study found that out of 34 companies, 11 companies (32% of sample) have provided some form of social and environmental reporting where just only 2 companies have presented sustainable report. The study revealed that environmental performance indicator was the least disclosed area (12%) out of three performance indicators (environment, social and economic). In respect of Quantity of environmental disclosures, performance of developed countries is better than developing countries.

Clarkson, Li, Richardson, & Vasvari (2008) studied environmental disclosures drawing from sample of 191 US firms and found positive association between environmental performance and level of discretionary environmental disclosures. Cornier & Magnan (2004) measured quality of environmental report using index of six categories in 41 North American and European companies representing seven industries The study found mean of environmental disclosures was about 86 with a range from 4 to 205. In the categories mean value of law and regulation was 3.71 as lowest and highest for environmental management was with mean 86.

Chatterjee & Mir (2008) opined that Indian companies do not disclose any bad news in the annual as well as website. Eljido-Ten (2009) used content analysis to investigate

Malaysian environmental disclosures employing 2001 annual report and stakeholder theory. The study found that quality of environmental disclosure ranged 0 to 22 with an average 6.58 where a firm could be able to get maximum number of 54. The overall quality of environmental disclosure was found low. According to the study of Owolabi (2008) and Ranjani (2014), quality of environmental disclosure is poor in Nigeria when compared with developed countries. Ranjani (2014) indicated quality of report was C level which is minimum level according to the GRI guideline.

Research Questions

Based on the above empirical observations and theoretical rigor the study has formulated the following research questions:

1. What is the current environmental disclosure reporting practice of public listed companies in Nigeria?
2. How does the quality and quantity of such disclosure impact on the environment?

Objectives of the Study

1. To identify the extent and types of environmental disclosures of listed companies in Nigeria.
2. To examine significant differences among the listed companies regarding the quality and quantity of such disclosures.

Hypotheses of the Study

H₀: There are no significant differences among the listed companies regarding the level of quality as well as quantity of environmental disclosures.

H₁: There are significant differences among the listed companies regarding the level of quality as well as quantity of environmental disclosures.

Methodology of the Study

Table 1 depicts that out of 194 companies, 133 (47%) companies disclose environmental information. Out of them 99 companies were selected by using proportionate stratified random sampling according to business sector as a sample to carry out the present study. Sample size is determined based on the table of sample size for a given population size (Krejcie & Morgan, 1970 cited in Nyahas, Ntayi, Kamukama, & Munene, 2018). When companies are selected as a sample by using proportionate stratified random sampling, selected sample companies are less than five in some sectors due to less number of companies disclose environmental information in that sector. However, minimum five companies are required to run Kruskal Wallis in each sector. Therefore, those sectors having sample size less than five are grouped and named as other sector. Quality of environmental disclosures is measured by using index of Clarkson (2008). Quality of environmental disclosure classified into two categories: hard (A1-A3) and soft (A4-A6). Quality of environmental disclosures was measured using number of sentences. In cases where tables or figures are provided, each figure and description is considered as one sentence. Moreover, descriptive statistics of data were performed to identify the main

characteristics of the research variables. Kruskal Wallis and Mann-Whitney tests were used to test the significant differences among the listed companies with regard to the quality and Quantity of environmental disclosure.

Table 1: Population and Sample

Type of the sector	No. of Companies	No. of companies disclosed environmental information	Sample
Bank, Finance and Insurance	41	32	24
Beverage Food and Tobacco	20	14	11
Diversified holdings	18	12	9
Hotels and Travels	16	9	7
Manufacturing	26	19	14
Oil and Gas	19	16	12
Others	54	31	22
Total	194	133	99

Source: Nigeria Stock Exchange, 2018

Analysis and discussion

According to Table 2, mean value of total quality of environmental disclosure is 12.61 out of total value of 88 and standard deviation is 10.77. Mean value of hard disclosure is 7.65 out of 72 total hard score whereas mean value of soft disclosure is 4.96 out of 16 total soft disclosures. This is around 31% of total soft disclosures. It indicates most of the companies disclose soft items more than hard items. Quality of environmental information is still in low level in Nigeria as indicated by Adeolop (2011). This finding is consistent with the finding of Clarkson Li, Richardson, & Vasvari (2008). Further, it shows that average quantity of environmental disclosure is 61 with standard deviation 70.89.

Table 2: Quality and Quantity of Environmental Disclosure

Disclosure items	Quality of Environmental Disclosure		Quantity of Environmental Disclosure	
	Mean	SD	Mean	SD
Hard disclosure	7.65	8.38	37.18	51.46
Soft disclosure	4.96	2.99	23.82	23.36
Total disclosure	12.61	10.77	61	70.89

Source: Survey data, 2018

Table 3: Quality and Quantity of Hard Environmental Disclosure

Disclosure items (Numbers given in brackets are maximum score for quality of environmental disclosures in each elements)	Number of disclosing companies	Quality of environmental disclosure		Quantity of environmental disclosures	
		Mean	SD	Mean	SD
(A1) Governance structure and management system (max score is 6)	--	1.13	1.35	3.27	5.14
1. Existence of a department for pollution control and/or management positions for environmental management (0-1)	18	0.18	0.39	0.53	1.64
2. Existence of an environmental and/or public issues committee in the board (0-1)	11	0.11	0.32	0.24	0.85
3. Existence of terms and conditions applicable to suppliers and/or customers environmental practices (0-1)	9	0.09	0.29	0.37	1.46
4. Stakeholders involvement in setting corporate environmental policies (0-1)	34	0.34	0.48	1.05	2.31
5. Implementation of ISO14001 at the plant and/or firm level (0-1)	25	0.25	0.44	0.73	1.92
6. Executive compensation is linked to environmental performance (0-1)	15	0.15	0.36	0.35	1.00
(A2) Credibility (max score is 9)	--	1.16	1.56	4.77	10.60
1. Adoption of GRI sustainability reporting guidelines (0-1)	34	0.34	0.48	0.95	1.70
2. Independent verification/assurance about environmental information disclosed in the environment performance report/web (0-1)	11	0.11	0.32	1.48	7.83
3. Periodic independent verification/ audits on environmental performance and/or system (0-1)	2	0.02	0.14	0.03	0.17
4. Certificate of environmental program by independent agencies (0-1)	25	0.25	0.44	1.06	3.56
5. Product Certificate with respect to environmental impact (0-1)	8	0.08	0.27	0.32	1.11
6. External environmental performance awards and/or inclusion in a sustainability index (0-1)	13	0.16	0.45	0.48	1.86
7. Stakeholder involvement in the environmental disclosure process (0-1)	7	0.07	0.26	0.12	0.59
8. Participation in industry specific association/initiatives to improve environmental practices (0-1)	5	0.05	0.22	0.22	1.00
9. EPI on compliance performance (e.g. exceedances, reportable incident) (0-1)	16	0.20	0.53	0.35	1.02
(A3) Environmental spending (max score is 3)	--	0.28	0.67	0.69	2.27
1. Summary of Naira savings arising from environment initiatives to the company (0-1)	4	0.04	0.20	0.16	1.04
2. Amount spent on technologies, R and D and/or innovations to enhance environmental performance and/or efficiency (0-1)	10	0.12	0.39	0.36	1.64
3. Amount spend on fines related to environmental issue (0-1)	10	0.12	0.41	0.16	0.77

Source: Survey data, 2018

In Table 3, it is noted that 34% of sample companies adopt GRI sustainability guidelines and 25% of companies implemented ISO. Similarly, 34% of companies discussed with stakeholders in setting corporate environmental policies.

Table 4: Quality and Quantity of Soft Environmental Disclosure

Disclosure items (Numbers given in brackets are maximum score for quality of environmental disclosures in each elements)	Number of disclosing companies	Quality of Environmental Disclosure		Quantity of Environmental Disclosures	
		Mean	SD	Mean	SD
(A4) Vision and Strategy claims (max score is 6)	--	2.68	1.78	12.33	12.65
1. CBO statement on environmental performance in letter to shareholders and /or stakeholders (0-1)	68	0.69	0.47	1.98	2.36
2. A statement of corporate environmental policy, values and principles, environmental codes of conduct (0-1)	78	0.89	1.11	4.86	6.91
3. A statement about formal management system regarding environmental risk and performance (0-1)	56	0.57	0.50	3.37	5.27
4. A statement that the firm undertake periodic reviews and evaluating its environmental performance (0-1)	9	0.09	0.29	0.42	1.60
5. A statement of measurable goals in terms of future and environmental performance (if not awarded under A3) (0-1)	28	0.28	0.45	0.94	2.46
6. A statement about specific environmental innovations and/or new technologies (0-1)	16	0.16	0.37	0.76	2.76
(A5) Environmental profile (max score is 4)	--	1.52	1.06	7.13	8.33
1. Existence of a department for pollution control and/ or management positions for environmental management (0-1)	18	0.18	0.39	0.53	--
2. Existence of an environmental and/or public issues committee in the board (0-1)	11	0.11	0.32	0.24	--
3. Existence of terms and conditions applicable to suppliers and/or customers regarding environmental practices (0-1)	9	0.09	0.29	0.37	--
4. Stakeholders involvement in setting corporate environment policies (0-1)	34	0.34	0.48	1.05	--
5. Implementation of ISO14001 at the plant and/or firm level (0-1)	25	0.25	0.44	0.73	--
6. Executive compensation is linked to environmental performance (0-1)	15	0.15	0.36	0.35	--
(A6) Credibility (max score is 9)	--	1.16	1.56	4.77	--
1. Adoption of GRI sustainability reporting guidelines (0-1)	34	0.34	0.48	0.95	--
2. Independent verification/assurance about environmental	11	0.11	0.32	1.48	--

Source: Survey data, 2018

From Table 4, it is noted that a statement of corporate environmental policy, values and principles and environmental codes of conduct is disclosed by 78 companies. On the other hand, none of the companies in Nigeria discloses existence of response plans in case of environmental accidents. Moreover, less than five companies disclose the following elements:

1. Periodic independent verifications/audits on environmental performance and/or systems.
2. Summary of rupees savings from environmental initiatives to the company.
3. Periodic independent verifications/audits on environmental performance and/or system.
4. An overview of corporate environmental performance relative to industry peers.
5. Internal environment awards.
6. Internal certification of environmental programs.

Even though 25 companies have gotten certification for environmental performance and 11 companies have been certified for independent verification/audits of reporting, they did not carry out periodic independent verifications/audits on environmental performance except 2 companies.

Hypothesis testing

Six Kruskal Wallis tests are conducted about quality as well as quantity of environmental disclosures relating to hard, soft and total disclosure among the listed companies. Table 6 provides results of Kruskal Wallis tests. These results reveal that there exist a significant difference among listed companies regarding quality of hard environmental disclosure, quality of total environment disclosure, quantity of hard environmental disclosure, quantity of soft environmental disclosure and quantity of total environmental disclosure at significance level of 0.05. On contrast, there is no significant difference among the listed companies regarding the quality of soft environmental disclosure at significance level of 0.05. This finding implies that non-environmental protecting companies may disclose soft environmental information as they committed to protect the environment. At the same time, quantity of soft environmental disclosure found to be significant which indicates that poor environmental performing companies may report less environmental information or number of sentences than good environmental performing companies.

Table 5: Kruskal Wallis Test

Kruskal Wallis Test	Quality of hard disclosure	Quality of soft disclosure	Quality of total disclosure	Quantity of hard disclosure	Quantity of soft disclosure	Quantity of total disclosure
Chi-Square	13.56	11.05	13.75	14.13	16.83	15.39
Asymp sig	0.035	0.087	0.033	0.028	0.010	0.017

Source: Survey data, 2018

Table 6: Sector Wise Mean ranking of quality and quantity of Environmental Disclosure

Sectors	No	Total hard quality disclosure	Total soft quality disclosure	Total quality disclosure	Total hard quantity disclosure	Total soft quality disclosure	Total quality disclosure
Bank, Finance, Insurance	24	60.50	55.54	59.71	59.52	63.62	61.85
Beverage Food and Tobacco	11	37.68	33.00	35.27	35.73	36.23	35.73
Diversified holding	9	65.61	65.72	66.28	66.78	68.50	66.83
Hotels and Travels	7	55.21	56.71	56.29	52.86	46.43	50.36
Manufacturing	14	33.93	38.36	34.79	32.36	33.36	32.46
Oil and Gas	12	42.00	45.17	42.46	46.42	45.58	45.83
Others	22	51.25	53.93	51.91	52.16	48.59	50.64

Source: Survey data, 2018

Table 6 presents sector wise mean ranking of quality and quantity of environmental disclosure. The table shows that diversified companies and bank, finance and insurance companies significantly differ from manufacturing and beverage food and tobacco companies.

The variation of the environmental disclosures among the companies may affect the companies' legitimacy in a society. If the disclosures are not met expectations of society, social contract may affect and consequently society may react negatively to the companies. Consequently, company's stakeholders may reassess the relationship with the firm and react negatively such as people may strike, customers may not buy company's products or services, government may fine and temporally suspend the operation of the company, etc. These actions will lead management to reassess the disclosure in coming years.

Conclusion

Numbers of companies disclosed environmental information has been increasing in Nigeria. However, companies disclosed more soft environmental information than hard environmental information in annual report published in 2017/2018. Notably, diversified companies disclose more environmental information in Nigeria followed by bank, finance and insurance companies. Further, it is noted that diversified and bank, finance and insurance companies significantly differ from manufacturing and beverage food and tobacco companies regarding quantity as well as quality of hard, soft and total environmental disclosures disclosure. The study shows that companies maintain the link with stakeholders for managing them in respect of environmental activities. Thus, the present

study concludes that companies legitimate their activities to society by reporting environmental performance to various stakeholders. If the disclosures are not met expectation of society, social contract may affect and consequently stakeholders might reach negatively to the companies. Such action would lead management to reevaluate the environmental disclosure in future.

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