

## COMPARATIVE ANALYSIS OF ENVIRONMENTAL DISCLOSURES IN OIL AND GAS AND CONSTRUCTION INDUSTRIES IN NIGERIA

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### ABSTRACT

Environmental reporting is an ingredient of sustainable development. However this ingredient seems to be inadequately recognized in Nigerian business terrains. The aim of this study is to examine the extent of environmental disclosures in quoted oil and gas and construction industries in Nigeria. A comparative analysis of the content of environmental information provided in the 2005-2009 annual reports of the sample firms was conducted to ascertain the degree of comprehensiveness of such disclosures and if there exists significant differences between both industries. Findings indicate that the oil and gas industry provided a better disclosure level but this difference was not significant. More so, both industries presented very scanty environmental information in their annual reports which was in agreement with the arguments of the study. This paper however recommends amongst others that companies perceive environmental reporting as a moral and corporate duty, and that standard setters draft a comprehensive framework for reporting environmental concerns.

**Keywords:** Annual Reports, Content Analysis, Environmental Reporting, Legitimacy, Sustainable Development

### INTRODUCTION

Sustainable development explains that processes of production must not trigger undue depletion of natural and human resources or threaten the environment. As such, sustainability marries economic and social systems with environmental factors. Development is assessed as sustainable when it meets the needs of the present without compromising the ability of the future generations to meet their own needs (UNWCED, 1987). In Nigeria, an increased level of consciousness can be observed with regards to the relationship that exists between sustainable development and the quality of the environment. Severe environmental degradation appears to be threatening the long term sustainable development prospects of the Country. The implication is that adequate efforts have not been channeled to strike equipoise between development objectives and the need to maintain desirable environmental quality. Presently, there is a growing concern of the society as well as business organizations on environmental issues and the importance of disseminating environmental information. In this regard, environmental reporting has been utilized as the vehicle for expressing the extent of commitment of organizations to the environment and their stakeholders at large. Environmental reporting and awareness can be part of critical long term strategies focused on providing behavioral change to support sustainable environmental management. Environmental awareness is a precondition for pro-environmental behavior and sustainable environmental management which translates to

sustainable development. The concept of Corporate Environmental Reporting was introduced in the early 1990s and since then it has rapidly gained acceptance as the means of communicating and demonstrating a company's commitment to improving corporate environmental performance to its stakeholders (ACCA, 2004). According to the KPMG and UNEP Report (2006), environmental accounting provides a common framework for organizations to identify and account for past, present and future environmental costs in order to support management decision-making, control and public disclosure. Studies investigating why companies disclose environmental information in their annual or environmental information in their annual or environmental reports have found that the reasons for disclosures relate to demands by corporate stakeholders, environmental groups, regulations, and improving corporate productivity and competitiveness (Suttipan and Stanton, 2012). Kolk, Walhain and Wateringen(2001) argue that many studies of environmental disclosure in annual or environmental reports have focused on companies in developed countries such as the USA, UK, Canada, New Zealand, Australia, Japan and the European Union. However, Nigeria, a nation with a weighty pressure on its environment for economic survival only has scanty works of environmental disclosures documented. Environmental concerns such as environmental protection, energy savings, fair business practice, e.t.c are not given priority in annual reports. Asechemie(1996) stresses that the practical absence of data relating to actions for social and environmental concerns in Nigeria is not in line with the trend in the USA, Europe and Canada where companies are required to report on the effect of compliance with laws governing corporate social environmental conduct. The establishment of the Federal Environmental Protection Agency(FEPA) and the National Environmental Standard and Regulatory Enforcement Agency (NESREA) for the purpose of supervising industrial activities as they affect the environment is welcome; nevertheless, there is utmost need for the government to go beyond this cosmetic move to ensuring that firms give a blow-to-blow account of their efforts towards environmental management, fair business practices, issues on products and energy and impact on biodiversity. In Nigeria, the articulation of environmental concerns (costs and benefits) into financial reporting is still at a foetal stage. Companies do not provide clear cut environmental sections in their annual reports. Environmental Information provided therein is usually scanty and trivial. This study is however poised at assessing the extent to which certain core environmental initiatives are incorporated into the environmental disclosures of firms in Nigeria. The oil and gas and construction industries have been judgmentally selected for a comparative anatomy of their corporate environmental reports. These industries have been by convenience selected for this investigation because of their high propensity to environmental degradation and pollution and also high impact of their industrial activities on the environment. The remainder of this paper is structured as follows: section 2 is a theoretical perspective to this study, section 3 elaborates on prior research works and hypotheses development, section 4 describes the methodology, section 5 shows the results and discussions of findings while section 6 concludes the paper and gives policy recommendations and implications.

## **THEORETICAL PERSPECTIVES**

This study draws heavily from the concept of organizational legitimacy. According to Lindblom (1993), legitimacy is a condition or status which exists when an entity's value system is congruent with the value system of the larger social system of which the entity is a part. Several researches have discussed corporate environmental and social disclosure practices within the theoretical framework of legitimacy (Dowling and Pfeffer, 1975; Guthrie and Parker, 1989; Wilmshurst and Frost, 2000). Legitimacy theory is derived from the concept of organizational legitimacy (O'Donovan, 2002). It is the most widely

discussed theory in explaining corporate social and environmental disclosure (Deegan, 2002, and Owen, 2008). It proposes a relationship between corporate social disclosure and community concerns so that management must react to community expectations and changes (Deegan, 2001; 2002). Legitimacy theory has been utilized to assess the various strategies management may choose from so as to remain legitimate (Deegan, 2001). O'Donovan(1999) demonstrates that the theory explains why companies report environmental disclosures, and as such, to bring legitimacy to an organization, social and environmental reports have been a part of the portfolio of strategies employed by accountants and managers to achieve this target (Wilmshurst and Frost, 2000; O'Donovan,2002). Organizations desire to operate within the boundaries set by their respective communities, and so they ensure that their host societies perceive them as legitimate since organizations cannot ignore the societies in which they operate. As such, Campbell, Craven, and Shrives (2003) demonstrate that legitimacy theory explains how environmental disclosures can be used to narrow the gap between company actions and social concerns or expectations. The legitimacy theory shall be used to streamline the research propositions of this study.

## **PRIOR RESEARCH AND HYPOTHESIS DEVELOPMENT**

Mullerat and Brennan (2005) argue that sustainable and socially responsible businesses recognize the need to operate a green business agenda while accepting environmental stewardship as an indivisible whole of business operations. In its commitment to make business more sustainable, the 1992 Earth summit in Rio endorsed environmental management systems (eco-efficiency) as the way forward for companies individually and collectively to contribute towards sustainable development. This is a management philosophy that encourages business to be more environmentally responsible while embracing concepts such as pollution prevention, waste reduction, waste minimization and cleaner production processes. According to Adegbite et al.(2012), organizations around the world that have incorporated sustainable practices to strengthen their organizational goals have no doubt built better global market share and competitiveness. Such sustainability is unrealizable without environmental stewardship which involves disclosing corporate environmental information. Corporate Environmental Reporting strategy is a complex phenomenon; literature review raises concerns about social research approaches (Alrazi, De Villiers and Van Staden (2010). There has been a significant increase in the number of companies in both developed and developing countries making environmental disclosures in their annual reports and other media in the last two decades (Deegan and Gordon, 1996; Kolk, 2003). According to Malarvizhi and Yadav (2012), a reference to environmental report means different things to different user groups. Some tend to think of stand-alone environmental reports while others focus on the environmental content in the annual report itself. A majority of works consider the type of information provided in the annual reports (Cho and Patten, 2007; Clarkson et al, 2008; Deegan and Rankin, 1996). Certainly, organizations have the exclusive right as to the type of information to be disclosed, most especially where there are no regulatory standard practices of environmental reporting. This has been highlighted in several studies (Patten, 2002; Aerts and Cormier, 2009).It may appear useful for companies to disclose much environmental information; however a close examination of the content of such disclosures has revealed a propensity for positive information (Deegan and Rankin, 1996). Cuttingham (2001)\_demonstrates that organizations provide little negative environmental information in the annual report even when the organization has experienced several negative environmental events. Such reports could mislead the users as regards the environmental performance of organizations (Rockness, 1985). The question then arises: What is the extent of environmental responsibility information disclosure in Nigerian firms? Are environmental reports comprehensive, or are they

just targeted at improving corporate reputation? Are there reporting differences across industries? To answer these questions, two highly environmentally sensitive industries are examined and then the following null hypotheses are proposed:

1. Environmental disclosures among selected industries lack comprehensiveness.
2. There is no significant environmental disclosure difference across selected industries.

## **METHODOLOGY**

Sample and Data Sources: The unit of analysis was 10 companies randomly selected from the 2 case industries. Only firms listed in the Nigerian Stock Exchange for the years of study 2006-2009 were considered. Quoted firms are the target of this study because of the availability of information and accessibility to annual reports due to their regulatory and mandatory preparation and disclosure of reports. According to Guthrie and Abeysekera (2006), the annual reports of organizations listed on stock exchanges have often become a source of raw data for social environmental reporting studies; therefore have served as an instrument for observing voluntary reporting. Gibson and Guthrie (1996) demonstrate that annual reports are used because organizations commonly signal what they perceive as important through the reporting mechanisms. They further document that therein, important issues are featured, reported and discussed, whereas less important items are absent or relegated to low profile sections of the report.

### Measurement of Variables

The study uses content analysis which is the most ideal method to explore environmental information in annual reports (Neuendorf, 2002; Sharifah, 2010). O'Dwyer(2005) defines it as a research technique for the systematic, objective and qualitative description of the manifest content of communication. Traditionally, content analysis has been used in the social environmental literature to evaluate the extent of disclosure of various items in annual reports of listed companies (Cowen, Ferrari and Parker, 1987; Gray, Kouhy and Lavers, 1995; Guthrie and Matthews, 1985; Guthrie and Parker, 1990; Hackston and Milne, 1996; Zeghal and Ahmed, 1990). A disclosure index developed by Fodio and Oba (2012) comprising of twenty established environmental disclosure items was employed to measure the extent of reporting in the various sample firms. A disclosure index is a research instrument comprising a series of pre-selected items, which, when scored, provides a measure that indicates a level of disclosure in the specific context for which the index was devised (Coy, 1995). Fodio and Oba (2012) disclosure index was utilized due to its informative and comprehensive nature and also the applicability of its indices to the selected case industries. Along the line of Cooke (1989), the index uses a binary coding system which assigns 1 if item is disclosed and 0 if it is not disclosed. As such, a firm could score a maximum of 20 points and a minimum of 0.

### Data Analysis Technique

The independent samples T- Test would be conducted using the SPSS Version 17.0 to determine if there is a significant difference in the mean scores of the two case industries. The group statistics would inform us of the extent of comprehensiveness of the disclosures between selected industries. For robustness sake, the hypothesis of no significant difference would be further ascertained using the Mann-Whitney U Test. The Mann-Whitney test is the non-parametric alternative to the independent T-test. It is used for assessing whether one of two samples of independent observations tends to

have larger values than the other. It is one of the most well known parametric significance tests known for its robustness and its lower likelihood (than the T test) to spuriously indicate significance because of the presence of outliers (Conover, 1981).

**Results and Discussions**

**Table 1 Group Statistics**

	Group	N	Mean	Std. Deviation	Std. Error Mean
Disclosures	Construction	20	4.3000	2.59757	.58083
	Oil and gas	20	5.1500	2.13431	.47725

**Table 2 Independent Samples Test**

	Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper	
disclosures Equal variances assumed	.105	.747	-1.131	38	.265	-.85000	.75175	-2.37184	.67184	
Equal variances not assumed			-1.131	36.622	.266	-.85000	.75175	-2.37373	.67373	

**Mann-Whitney Test**

**Table 3 Ranks**

	Group	N	Mean Rank	Sum of Ranks
Disclosures	Construction	20	17.65	353.00
	Oil and gas	20	23.35	467.00
	Total	40		

**Table 4 Test Statistics<sup>b</sup>**

	Disclosures
Mann-Whitney U	143.000
Wilcoxon W	353.000
Z	-1.617
Asymp. Sig. (2-tailed)	.106
Exact Sig. [2*(1-tailed Sig.)]	.127 <sup>a</sup>

a. Not corrected for ties.

b. Grouping Variable: group

An examination of the group statistics (table 1) shows that the oil and gas industry has a greater mean statistic at 5.1500 and a smaller standard deviation of 2.134. This to a large extent reveals that disclosure level in the oil and gas is obviously higher than the construction. The Levene's test for equality of variances in table 2 satisfies the T- test independent sample assumption of equal variances with  $P = 0.05$ . The Sig.value from the levene test is .747 and means that there is no significant difference in the variances of the 2 industries. The column sig (2tailed) shows us the value .265 which is above the required cut off of .05. As such, this study concludes that there is no significant difference between the two industries in the mean score of environmental disclosures.

The Mann Whitney test gives similar findings. The table 3 (ranks table) shows the group with the highest mean rank. Similar to the results of the independent T test, the oil and gas industry has the highest environmental disclosure concentrations. Results on table 4 (test statistics) confirms the T test findings. From the data, it can be concluded that there is no statistically significant difference in the extent of disclosure between the case industries ( $U = 143$ ,  $P = .127$ ). In other words, oil and gas and construction industries do not appear to differ in their levels of environmental disclosures  $Z = -1.617$ ,  $P = 0.05$ , two tailed.

## CONCLUSION AND RECOMMENDATIONS

The absence of awareness and accessibility to environmental information often leads to more reckless environmental behavior which unavoidable results to environmental problems and a vicious cycle of poverty. These environmental problems are radically against the principles of sustainability. The public has the right of access to environmental information as well as related organizational activities. Making such information publicly available is essential for achieving sustainable development. The study investigates the extent of environmental disclosures in oil and gas and construction industries in Nigeria. The results indicate that both industries do not significantly disclose different levels of environmental information in their annual reports. More importantly, the study presents evidence on the poor environmental disclosure levels in environmentally sensitive industries in Nigeria. These industries were expected to have demonstrated high environmental concerns and consequently sound environmental reporting; but contrarily, overall average disclosures (as found in Appendix 1) stood at 20.6 for oil and gas and 17.2 for construction. Some of the sample companies were also found to have disclosed

only 3 out of 20 testable environmental items used for this study. This only goes to confirm the arguments of this study that environmental disclosures in annual reports of Nigerian companies are scanty and trivial. Nigeria's environmental problems are extensive. Her natural environmental resources and the quality of its air, water and soils are severely threatened. Although these companies that do business in the country generate considerable revenue from their operations in their local communities, yet, nothing tangible trickles down (in form of environmental protection) to the populace who are generally poor and growing poorer with a consistent threat to their renewable natural resources. There is a definite need that these industries improve on their environmental activities and management and consequently report these via their annual reports, magazines, and corporate websites amongst others. With access to environmental information, the public would have sound knowledge of the implications of the activities of organizations on the environment and are able to agitate for processes and systems that improve the environment. Environmental reporting and awareness can be a part of critical long term strategies focused on promoting behavioral change to support sustainable development. Conclusively, this study recommends that the Financial Reporting Council and other relevant bodies in the standard setting process draft a comprehensive framework for environmental reporting practices for Nigerian firms.

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### Appendix 1: Average Environmental Disclosures

	Oil and Gas		Construction	
1.	Mobil Oil	3.2	Julius Berger	7.4
2.	African Petroleum	3.4	Cappa D' alberto	3.0
3.	BOC Gases Plc	5.8	Roads Nig. Plc	3.6
4.	Eterna Oil	8.2	Costain W/Africa	3.2
		20.6		17.2

## **Appendix 2: Twenty established environmental check list instruments**

### **Environment management**

1. Compliance with environmental laws/regulations
2. Environmental policies
3. Environmental audit
4. Environmental committee in board/department for pollution
5. Environmental research and development
6. Environmental performance section in annual report.
7. Environmental spending- fines, penalties and compensation
8. Financial data on environmental savings or investments/expenses or liabilities.

### **Impact on Biodiversity**

9. Emissions- air, water, noise, waste, green house gas, ozone depleting substances, spills.
10. Recycling waste products/waste management
11. Materials, water, and energy conservation
12. Awards for environmental vision and strategy.

### **Fair Labor Practices**

13. Staff diversity- Employment of physically disabled, employment of women, and multi-ethnicity.
14. Staff protection- Work place safety and security, information on accidents at workplace.
15. Staff training, career development and employees' welfare.
16. Compliance with labor standards.

### **Products/Energy**

17. Product innovation and packaging, product life cycle management.
18. Identification of environmental impacts of products/services.
19. Disclosing energy savings resulting from products/services.
20. Disclosing company's energy policies.

SOURCE: Fodio and Oba (2012)

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