
**COMPARATIVE ANALYSIS OF ENVIRONMENTAL DISCLOSURE IN
OIL AND GAS INDUSTRIES IN NIGERIA: A STUDY OF SELECTED
OIL AND GAS INDUSTRIES ON THE NIGERIAN STOCK EXCHANGE**

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Abstract

This study compared the environmental disclosure requirements of Global Reporting Initiatives (GRI) with the environmental information disclosed in the annual report of five Listed Oil and Gas firms in Nigeria for the period of five years (2012-2016). The Content Analysis research design was adopted. Secondary data for the study were obtained from the published audited financial statements of the five Listed Oil and Gas firms in Nigerian for the period under review from which disclosure compliance index was developed. The statistical tools employed were the compliance index and the Friedman Analysis of Variance (ANOVA). The findings of the study are that there is a significant positive relationship between the firms' compliance and Global Reporting Initiative (GRI) disclosure requirements among the sampled oil and gas firms in Nigeria. The study however recommends

among others that the accounting standard setters (IFRS) should draft a more comprehensive framework for reporting environmental concerns, specifically for the oil and gas industries because of their high propensity to environmental degradation and pollution, and also the high impact of their industrial activities on the environment.

Keywords: Environmental Disclosure, Oil and Gas Firms

Environmental disclosure by corporations has been increasing steadily in both size and complexity over the last two decades (Smith, 2003).

Environmental reporting has been utilized as the vehicle for expressing the extent of commitment of organizations to the environment and stakeholders at large. According to Deegan & Rankin (1996), corporate environmental reporting refers to the way and manner by which a company communicates the environmental effects of its activities to particular interest groups within society and the society at large. Companies through the process of environmental communication may seek to influence the public's perception towards their operations, thereby attempting to create a good image (Deegan & Rankin, 1999).

In Nigeria, the articulation of environmental concerns (costs and benefits) into financial reporting is still at a foetal stage, (Oba & Fodio, 2012). Companies do not provide clear cut environmental sections in their annual reports and environmental information provided therein is usually scanty and trivial.

Prior researches on corporate social and environmental disclosures highlighted that private entity disclosures tend to be biased toward positive aspects (Adams 2004, Cho 2009 & Boiral 2013). Accordingly, Dey, Russel & Thompson (2011) pointed out that some of the reports published by organizational stakeholders are premised on the assumption that something is wrong. The underlying assumption is that, even though organizations may publish information through various communication channels, the overall picture of organizational activities disseminated thereby, is either partial or biased (Ruffing, 2007).

Williams (1999) in his study observed that investors and other stakeholders demand more for the disclosures of company's environmental information. This is because of their concerns about the magnitude of costs and liabilities associated with environmental issues and also, its impacts on various investors' decisions and the activities of other stakeholders groups.

Objective of the Study

The main objective of the study was to institute a comparative analysis of environmental disclosures of Oil and Gas Companies currently operating in Nigeria using the Global Reporting Initiative (GRI) environmental requirements as a yardstick. The specific objectives of the study were:

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1. to ascertain the extent of environmental disclosures in the annual reports of the selected Oil and Gas firms in Nigeria.
2. to determine if there exist significant environmental disclosures differences among the selected Oil and Gas firms.
3. to measure the level of association among the firms' environmental disclosures and Global Reporting Initiative environmental disclosure requirements among the listed Oil and Gas firms in Nigeria.

Hypotheses

In order to direct the flow of this study, the following hypotheses were formulated:

1. Ho: The extent of compliance with the Global Reporting Initiative (GRI) environmental disclosures requirements by the quoted oil and gas firms on Nigerian Stock Exchange is not statistically significant.
2. Ho: The compliance with Global Reporting Initiative (GRI) disclosure requirements between the quoted oil and gas firms on the Nigerian Stock Exchange is not statistically significant.
3. Ho: There is no statistical significant relationship between the firms' compliance and Global Reporting Initiative (GRI) disclosure requirements

Conceptual Framework

The Concept of Environmental Accounting

The study of Nagle (1994) on environmental accounting reveals that corporate managers are placing high priority on environmental accounting. Environmental accounting as a prevalent subject in the international community is not yet a priority in Nigeria. Field & Field (2002) explains pertinent aspects of environmental degradation and costs as those including emissions into the air, water and land. Also, aspects of untreated domestic waste outflows into rivers and coastal oceans, quantities of solid waste that must be disposed of, perhaps through land spreading or incineration. Pollution include airborne SO₂ emissions from power plants by stack-gas scrubbing which leaves a highly concentrated sludge and degradation which incorporates midnight dumping, illegal dumping along the sides of roads or in remote areas. Peskin (1989) viewed environmental accounting as a tool that can be used to determine less tangible and external costs for projects and activities such as bio-diversity, human health and aesthetic values.

What are Environmental Costs?

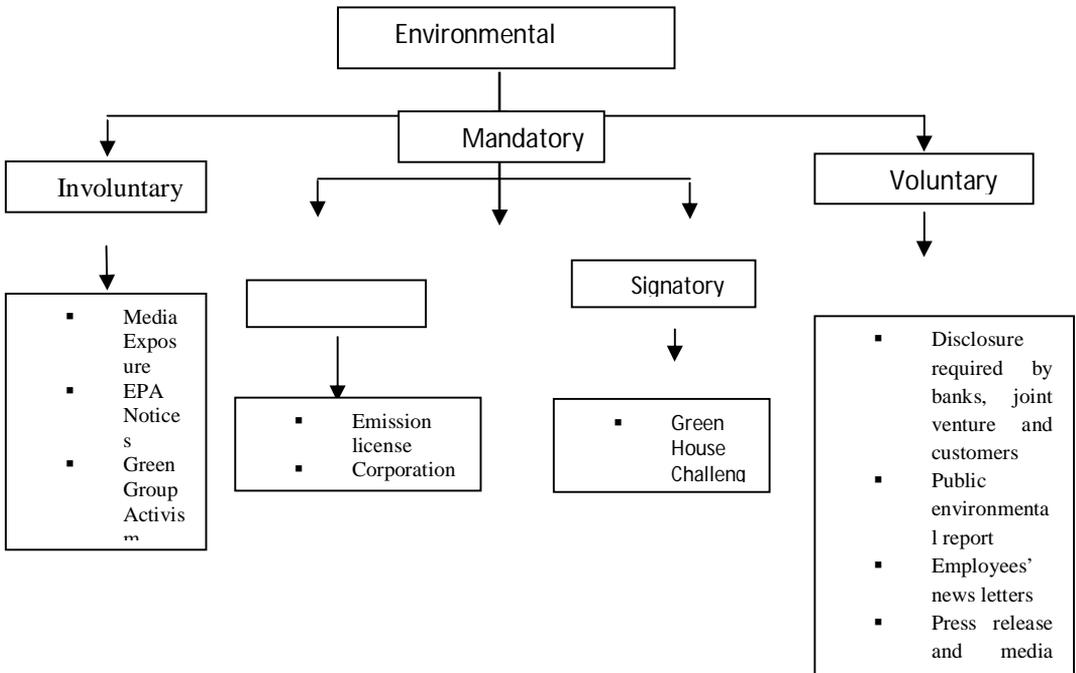
The Environmental Protection Agency, (1995) defines environmental costs as those costs that have a direct financial impact on a company (internal costs), and costs to individuals society and the environment for which the company is not accountable (external costs). The type of costs included in an environment accounting system ultimately determines the scope of the system. According to Alfieri (1998),

environmental cost have traditionally been thought of as the end-of-pipe costs, such as the costs associated with cleaning up sites after production, or waste-water treatment costs. Environmental management policies that focus on these end-of-pipe costs and technologies can generate positive returns.

Types of Environmental Reporting

The two primary forms of environmental reporting as identified by Deloitte Touche Tohmatsu International (1993) are mandatory and voluntary environmental reporting. However, environmental reporting may also come from a third party, viewed to be involuntary. The figure 2.1.3.1 below highlights the various types of environmental reporting.

Fig. 2.1.3.1: Types of Environmental Reporting



Source: Deloitte Touche Tohmastu International (1993)

From figure (2) above, while involuntary environmental reporting has been seen as the disclosure of a company’s environmental activities without its permission and against its will; on the other hand, voluntary environmental reporting involves the

disclosure of a company's environmental information on a voluntary basis. This information in most cases arises from pressures from various groups that have interest in the performance of companies. These groups include stakeholders, banks, environmental community members from local communities and corporate customers. Furthermore, mandatory environmental reporting is viewed as the disclosure of information about a company's environmental activities that is required by law.

Theoretical Framework

Positive Accounting Theory

The study is based on positive accounting theory. This theory suggests and explains why firms make voluntary social disclosures (Bassey, 2013; Effiok, 2013; Eton, 2013). Based on the original work of (Watts & Zimmerman, 1998), the positive accounting theory have directly sought to establish evidence for the political cost hypothesis as an explanation for firms social disclosures.

Positive accounting theory explanations rely on empirical evidence largely and also identical to social disclosure, explanations which, incidentally Gray et al (1995) seem to find more acceptable. As Gray et al (1995) note, a number of empirical studies has shown strong associations between disclosure and firm size, and between disclosure and type of industry.

Empirical Review

Dibia and Onwuchekwa (2014) examined the determinants of environmental disclosures in Nigeria. The study was concerned with the examining the effect of firm size, profit, leverage and audit firm type on environmental disclosures. The cross-sectional research design was utilized in undertaking the study. A sample of 15 companies drawn from the oil and gas sectors of the Nigerian stock exchange for 2008-2013 financial years was used for the study. Secondary data was sourced from the annual reports of the sampled companies while the binary regression technique was used as the data analysis method. The finding of the study shows that firstly; there is a significant relationship between company size and corporate social responsibility disclosures. Secondly, there is no significant relationship between profit and corporate social responsibility disclosures. Thirdly, there is no significant relationship between leverage and corporate social responsibility disclosures. Finally, there is no significant relationship between audit firm type and corporate social responsibility disclosures. The study concludes that the voluntary stance of environmental reporting has often be used as a cliché for companies to under-report their environment and this is responsible for the negligence of several corporate entities with regards to corporate social and environmental reporting.

Oba and Fodio (2012) conducted a study on the comparative analysis of environmental disclosures in oil & gas and construction industries in Nigeria. The study aimed at examining the extent of environmental disclosures in quoted oil & 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 firm was conducted to ascertain the degree of comprehensiveness of such disclosures and if there exists significant differences between both industries. This was achieved with the assistance of a disclosure index developed by Fodio & Oba (2012) comprising of twenty established environmental disclosure items 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 & 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. The independent samples T- Test was 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 study concludes that both industries presented very scanty environmental information in their annual reports which was in agreement with the argument.

Onyali, Okafor & Egolum (2014) assessed the extent, nature and quality of environmental information disclosure practices of manufacturing firms in Nigeria. Content analysis was adopted in analyzing the annual reports of the selected firms with regards to their environmental disclosure practices. Furthermore, a survey method was carried out in order to ascertain whether the environmental disclosure practices of firms in Nigeria have improved. This was done with the aid of a questionnaire administered to 40 chartered accountants. The study adopted one sample t-test in testing the formulated hypothesis. The findings of the study indicated that the environmental disclosure practices of firms in Nigeria is still ad hoc and contains little or no quantifiable data. The study therefore recommends the development of environmental disclosure standards that will harmonize the disclosure practices of firms as well as results in providing environmental quantifiable data.

Methodology

The research design used in this study is Survey Design. The firms used include Total Nig Plc, Oando Plc, MRS Oil Plc, Forte Oil Plc and Mobil Plc, The study however assesses the level or extent of compliance with the Global Reporting Initiatives (GRI), disclosure requirements for listed oil and gas firms on the Nigerian Stock Exchange (NSE).

This study was however poised at assessing the extent to which certain core environmental initiatives are incorporated into the environmental disclosures of firms in Nigeria using the environmental requirements of Global Reporting Initiative (GRI), as a yardstick. Some Oil and Gas industries have been judgmentally selected for a comparative analysis of their corporate environmental reports. These Oil and Gas

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industries have been conveniently 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 statistical test tool of Friedman’s 2 ways ANOVA was employed and was operated using SPSS version 20. This is to examine the compliance level of environmental disclosure among the listed oil and gas firms’ in Nigeria.

Table 1: Benchmark for Grading Compliance with Requirements of Global Reporting Initiative (GRI) by Listed Oil and Gas Firms in Nigeria

| S/N | Level of disclosure | Code | Boundary limit by item (5years) | Boundary limit annually | Percentage (%) |
|-----|----------------------|------|---------------------------------|-------------------------|----------------|
| 1 | Extremely disclosed | ED | 3.50-5.00 | 18.50 – 26.00 | 70-100% |
| 2 | Moderately disclosed | MD | 02.50-3.49 | 13.00 – 18.49 | 50-69.9% |
| 3 | Poorly disclosed | PD | 01.50-2.49 | 6.50 – 12.9 | 26-49.9% |
| 4 | Not disclosed | ND | 00.00-1.49 | 00.00 – 6.49 | 00-25.9% |

Source: Adopted with modification from Siyanbola, Musa, & Wula, (2014).

Decision Rule

The boundary limits of number were used as shown in table 3 to facilitate decision making. The decision rule was based on the rating which was calculated as follows: $(0+1)/2 = 0.5$. Then for grade points of 5 and 26 we have: $(0.5 \times 5 = 2.50)$ and $(0.5 \times 26=13.00)$. Therefore, an item with a rating of 2.50 or 13.00 and above shows that the disclosure level is fair or moderate (i.e. compliance) where the rating is below 2.50 or 13.00 it means the disclosure level is weak, poor or inadequate (i.e. noncompliance). Note: “0” and “1” are the only possible scores a firm can obtain, that is, “0” for non-disclosure (non-compliance) and “1” for disclosure (compliance). A null hypothesis will not be rejected if the p-value is greater than or equals to the pre-set level of significance ($5\% = 0.05$) or otherwise be rejected.

Result of the Study

The results of the analysis are shown on the tables below as thus:

Table 4: Result on the Extent of Compliance with the Global Reporting Initiative (GRI) Environmental Disclosures Requirements by the Quoted Oil and Gas Firms on Nigerian Stock is not Statistically Significant.

| | Null Hypothesis | Test | Sig. | Decision |
|---|-------------------------------------------------------------------------------------------|------------------------------------------------------------------|------|-----------------------------|
| 1 | The distributions of Total Oil, Oando Oil, Mrs Oil, Forte Oil and Mobil Oil are the same. | Related-Samples Friedman's Two-Way Analysis of Variance by Ranks | .001 | Reject the null hypothesis. |

Asymptotic significances are displayed. The significance level is .05.

Hypothesis One:

From the above analysis in table 4, it can be deduced from table 4 above that the Nigerian listed oil and gas firms comply with the provisions of the Global Reporting Initiative (GRI). The observed overall 50.3% disclosure compliance with the standard is moderate.

Null hypothesis was rejected and accepted alternate hypothesis which contends that the Nigerian quoted oil and gas firms’ compliance with the disclosure requirements of the Global Reporting Initiative (GRI) is statistically significant, thus being in disagreement with the work by Owolabi, (2008) where he examines 20 companies and found out that only 35% out of the 20 companies had some form of environmental and social disclosure and in agreement with Appa (2011) work that 82.5% of Nigerian companies he sampled presented environmental information in their annual reports. Most of the companies choose to make statement on environmental disclosures inside Directors Report while some choose the Chairman’s Statement and these disclosures are mostly on human resources, donations, educational aid, product safety and community support programmes.

Table 5: Result on the Compliance Disclosures between the Quoted Oil and Gas Firms on the Nigerian Stock Exchange are not Statistically Different

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Hypothesis Test Summary

| | Null Hypothesis | Test | Sig. | Decision |
|---|------------------------------------------------------------------------------------------|------------------------------------------------------------------|------|-----------------------------|
| 1 | The distributions of Total Oil, Oand Oil, Mrs Oil, Forte Oil and Mobil Oil are the same. | Related-Samples Friedman's two-Way Analysis of Variance by Ranks | .020 | Reject the null hypothesis. |

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Two:

Table 5 above shows that the compliance with Global Reporting Initiative (GRI) disclosure requirements between the quoted oil and gas firms on the Nigerian Stock Exchange is statistically significant.

Null hypothesis was rejected and the alternate hypothesis was accepted which portends that the compliance with Global Reporting Initiative (GRI) disclosure requirements among the quoted oil and gas firms on the Nigerian Stock Exchange is statistically significant.

Table 6: Result on if there is Statistical Significant Relationship between the Firms' Compliance Disclosures among the Sampled Quoted Oil and Gas Firms in Nigeria.

Hypothesis Test Summary

| | Null Hypothesis | Test | Sig. | Decision |
|---|------------------------------------------------------------------------------------------|------------------------------------------------------------------|------|-----------------------------|
| 1 | The distributions of Total Oil, Oand Oil, Mrs Oil, Forte Oil and Mobil Oil are the same. | Related-Samples Friedman's two-Way Analysis of Variance by Ranks | .008 | Reject the null hypothesis. |

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Three:

Table 6 above shows that there is strong indication that Nigerian oil and gas firms do comply equivalently with the disclosure requirements of Global Reporting Initiative (GRI) in the period under review. The study however rejects the null hypothesis and concludes that there is a statistical significant difference in compliance with the disclosure requirements of Global Reporting Initiative (GRI) among the quoted oil and gas firms in Nigeria.

Conclusion

Environmental accounting firms are concerned with the involvement of communities in which they operate. The results provide some preliminary evidence of the possibility that corporate environmental disclosure in Nigeria represent attempts by companies to improve their corporate image and to be seen as responsible corporate organizations. There is lack of appropriate measurement technique for measuring of environmental accounting. Companies don't really know how to account and measure the environmental issues rendered by them. Thus makes them to neglect it since they don't know how to quantify them. So the problem of measurement is still unchecked.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. The government should ensure that corporate organizations disclose and report the level of environmental pollution and degradation in their annual report.
2. The accounting standards setters in Nigeria should draft a more comprehensive framework for reporting environmental concerns specifically for the oil and gas industries because of their high propensity to environmental degradation and pollution as well as the high impact of their industrial activities on the environment.
3. That environmental disclosure should be a mandatory disclosure not voluntary so that companies can also help in developing the society. This in turn, will lead to unproblematic comparability of financial statement at global level.

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