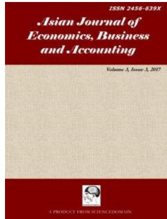

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Oil Companies Performance and Environmental Accounting Reporting in Nigeria

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Authors' contributions

This work was carried out in collaboration between all authors. Authors AMO and OLN designed the study, performed the statistical analysis and wrote the first draft of the manuscript. Author UAO managed the manuscript, read and amended the first draft of the manuscript. All authors read and approved the final manuscript.

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ABSTRACT

This study was conducted to examine the nature of relationship existing between environmental accounting reporting and Oil companies' performance in Nigeria. Eleven (11) quoted oil companies were randomly selected from the Nigerian Stock Exchange. The secondary data used were from the audited financial statements of the Oil companies. Environmental accounting reporting was measured by the costs of air pollution, water pollution, land degradation, staff welfare, community welfare, and litigations. The performance of the Oil companies was measured using return on capital employed (ROCE); net profit margin (NPM), divided per share (DPS) and earnings per share (EPS). The statistics used in testing the hypothesis is multiple linear regression. The results of the analysis showed insignificant relationships between environmental accounting reporting and performance variables, that is, return on capital employed (P = 0.175), net profit margin (P = 0.95),, earnings per share (P = 0.423), and dividend per share (P = 0.542). Based on the findings, it is therefore recommended that government should make environmental disclosure compulsory and also impose sanctions on the violation by any Oil company in Nigeria; compliance by the Oil companies should be taken seriously so that the environment will be safe for economic growth and development.

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1. INTRODUCTION

When the environment is affected, man's livelihood is affected too. In that case, a rational being as man is always in deep thought of calculation on how to make maximum use of his environmental resources to better his life. This desire drives a man into various activities which include among others: production of goods and services, seeking for adequate accommodation, urban development, portable water supply and others. However, the ongoing environmental activities within the environment have impacted on the ecosystem, thereby leading to the environmental diminution, resource exhaustion, and environmental data misuse. This development brings about the idea of environmental accounting that is, keeping the records of environmental activities in order to know whether the data generated have a significant impact on the performances of oil companies carrying out these activities. Moreover, data generated from an environmental survey carried out by the companies and other agencies can be applied within the organisations, but can also be used by the public through disclosure in environmental reports [1]. One way of making use of the environmental data is by way of disclosure. By this, those users of the information would get an understanding of the company's stance on environmental conservation and how it specifically deals with environmental issues [2]. Again, the deepest thought in man's mind is that one day the environmental resources might be exhausted without commensurate reward. Therefore, the enactment of environmental laws and regulations by government become another option so as to protect the environment from being totally ruined. Similarly, due to uncontrolled activities in the environment as a result of "leakages" in the regulatory framework and weaknesses in policy implementation, gas flaring, waste disposal, air, land and water pollutions have made the development of natural resources and environmental accounting reporting an area of significant interest in Nigeria.

Thus, this paper is set to examine the need for Oil companies in Nigeria (Niger Delta in particular) to account for their impact on their operation environment; it would show whether environmental costs such as, air pollution, water pollution, land degradation, community welfare, staff welfare, environmental security, exploration risk and litigation, have significant relationship with the performance of the oil companies in Nigeria which would be measured using profitability and investors' indices, Return on Capital Employed (ROCE), Net Profit Margin (NPM), Dividend Per Share (DPS) and Earning Per Share (EPS). The research question is that what is the nature of relationship existing between environmental accounting reporting (ENVC) and financial performance (ROCE, NPM, DPS, and EPS) of Oil companies in Nigeria?

The result of the study will facilitate the understanding of the impact of environmental accounting reporting on the Oil companies' performance in the Niger Delta Region of the country; it will help to highlight the amount of disclosure of environmental matters by the Oil companies. Above all, it will add to the existing literature and contribute significantly to knowledge in the area of environmental accounting studies. The major limitation is that the researchers relied on secondary data published (financial statements) by the companies.

2. LITERATURE REVIEW

As cited in Pramanik et al. [3], an environmental disclosure is a process by which a corporation or organisation communicates its information regarding the range of its environmental activities to a variety of stakeholders. It is also defined as the assessment of the impact of environmental issues on the company's financial performance and that it requires changes to the way the company discloses environmental issues in their annual/finance reports. The aim of environmental reporting is to fulfill accountability and transparency purposes while providing useful information for timely and appropriate decision making by interested parties. Moreover, environmental reports are ways in which the company provides information to meet the financial markets requirement. Pramanik et al. [3] further expressed the report as the company's way for the provision of information about environmental performance, and meeting financial markets and at the same time providing itself with a positive environmental image. In addition, environmental reporting is considered as a valuable evaluation tool for corporations and individuals, when making investment decisions.

Gray et al. [4] opined that businesses in the form of corporations operate within the framework of

social systems. Gray et al. [5] categorized much of the extant research literature on corporation environmental reporting into theoretical perspectives which includes the legitimacy theory and stakeholder theory. These theories take a system perspective, recognizing that businesses interact with and affect entities beyond their artificial boundaries. Gray et al. [4] argued that these theories should be seen not as a competitive explanation but as a source of interpretation of different factors at different levels of resolution. According to Gray et al. [5], legitimacy theory refers to the extent and types of corporate social and environmental disclosures in the annual report highlighting the efforts management has made towards community needs. Gray et al. [5] further suggest that legitimacy theory is useful in analyzing corporate behaviour. Bradford [6] further added that legitimacy is important to organisations, constraints imposed by social norms and values and reactions to such constraints provide a focus for analyzing organisational behaviours taken with respect to the environment. Gray et al. [5] opined that proponents of legitimacy theory try to operate within the length and breadth of the society's norm. [7] stressed that the society's expectations have been altered because of changes in business outlays to repair or prevent damage to the physical environment by trying to ensure the health and safety of consumers, employees, and those who reside in the communities where products are manufactured and wastes are dumped. Tilt [8] viewed legitimacy as "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" Suchman [9] attempted to put forward a congruence between social values associated with norms of acceptable character in the gibber social and environmental system of which they are part".

Stakeholder theory provides a framework for corporate social disclosures. According to Watts and Zimmerman [10] they assume that disclosure on social and environmental information by an organisation is as a result of the pressure from stakeholders such as communities, customers, employees, environment, shareholders, and suppliers. Davey [11] remarked that a firm's success is dependent upon the successful management of all the relationships that a firm has with its stakeholders. Belal [12] added that organisations depend on the continued existence and the support of the stakeholders and their approval must be sought and the activities of the corporation adjusted to gain that approval. Chan [13] pointed out that the more powerful the stakeholders, the more the company must adapt. Appah [14] concluded that the corporate environmental disclosure is a way to show a good image to the stakeholders to boost long-term profits because it would help to retain existing customers and attract new ones [2]. This study adopts the stakeholders' theory as a basis for explaining corporate environmental disclosures.

Uwaigbe and Jimoh [2] conducted a research on corporate environmental disclosures in the Nigerian manufacturing industry. The result of the study showed that environmental disclosure practices are very low and are still in its infancy stage. Uwaigbe and Jimoh [2] further stressed the need for concerted efforts on the part of Financial Reporting Council of Nigeria (FRCN) and the Government of the Federal Republic of Nigeria to make corporate environmental disclosure mandatory in the country so that the host communities and the government will be on the advantage position. Holm and Rikhardsson [15] studied the effect of environmental disclosure on investment decisions. They came out with the result that environmental information disclosure influences investment allocation decisions. The findings, according to their study was that companies that are apathetic to their environmental costs or responsibility might experience eventual crashes on their stock price if their investors are rational in considering the future value of the firm based on its present state of environmental responsibility.

Hassel et al. [16] carried out a study on the effect of environmental information on the market value of listed companies in Sweden using a residual income valuation model. They came out with the findings that, environmental responsibility as disclosed by sampled companies has value relevance since it is expected to impact on the future earnings of the listed companies. According to their findings, the implication was that companies that pollute the environment may suffer future solvency and gradual earnings depletion. Turban and Greening [17] and Cochra and Wood [18] investigated the effect of corporate social performance on organizational attractiveness to prospective employees. Cochra and Wood [18] followed the same line of research by investigating the relationship existing between corporate social responsibility and firm performance. They two groups came out with the

conclusion that there a mutual relationship between corporate social responsibility and firm performance.

Lankoski [19] in his doctoral dissertation analyzed, at the firm level, the relationship, between environmental performance and economic performance. His data shows a correlation between environmental performance and economic performance. According to Hillman and Keim [20] not all social investment may yield a return in a financial form but may boost corporate competitive strategic value. Bala and Yusuf [21] in their study reiterated that no track for environmental costs determination was available due to the changing nature of environmental costs. They suggested that there is a need for proper charging and allocation. They also concluded that distinction between environmental costs and other costs will lead to a proper cost allocation of these costs and thus more precisely and will support develop sustainability parameters.

Hamid [22] took the stance that accounting should be responsible for measuring, evaluating and reporting environmental performance in financial statements or in its attachments. According to them, this would show the degree of responsiveness of organisations to its immediate society. It is clear here that attaching value to environmental performance may need the services of economists and accountants to give best estimates according to the current level of understanding and techniques used. Using the normal convention accounting data like pollution ratio and also attaching a monetary value to environmental issues may not be completely accurate, but would serve as a pointer to the desired results.

Ruslaina et al. [23] examined the relationship between environmental disclosure and financial performance of firms listed on the Malaysia, Thailand, and Singapore Stock Exchange. Financial performance was proxied by return on total assets The data for the study were collected from annual reports and accounts of 108 randomly selected listed companies in Malaysia (56), Thailand (37) and Singapore (15). Regression analysis was conducted to analyze the data. The findings suggest that financial performance of the companies have no significant relationship with environmental disclosure.

A research was conducted by Ahmad [24] to find the significance of the environmental accounting and environmental reporting on Bangladeshi companies using both primary and secondary data which 40 chief accountants and senior accountants participated in the study with one participant drawn from each of the different sectors. The annual reports served as a source of secondary of which data were collected from the annual reports of the year 2016 of the oil companies. All the selected companies are listed companies in the Nigerian Stock Exchange.

Makori and Jagongo [25] conducted their research in India with the objective of establishing whether there is any significant relationship between environmental reporting and profitability of selected firms listed in India. The data for this paper were collected from annual reports and accounts of 14 randomly selected quotes companies in Bombay Stock Exchange in India and was analyzed using multiple regression models. His framework involved environmental accounting (amount spent on environmental protection) as its independent variable; and return on capital employed, earnings per share, net profit margin and dividend per share as its dependent variables. The key findings of the study show that there is a significant negative relationship between environmental accounting and return on capital employed, earnings per share, and a significant positive relationship between environmental accounting and net profit margin and dividend per share.

Murray et al. [26] conducted a study to investigate the relationship between social and environmental reporting and financial performance of Top 100 United Kingdom companies over the nine-year period starting from the year 1989 to 1997. Total social and environmental, voluntary social and environmental and environmental disclosures were employed as the research's independent variables; whereas just share price return was employed as their dependent variable. Furthermore, content analysis was used for the data collected. According to their research, the relationships between share price returns and total social and environmental, voluntary social and environmental and environmental disclosures varied from year to year, varied across different forms of disclosure and swung between positive and negative over time.

3. METHODOLOGY

This study uses secondary data for the periods 2014, 2015 and 2016. The data were collected

from the Nigerian Stock Exchange (NSE) (Annual Reports and Accounts of the Oil companies in Nigeria under). Eleven (11) Oil Companies operating in Nigeria (Niger Delta Region) have been randomly selected by the researcher based on the availability of annual reports and accounts in the Nigerian Stock Exchange (NSE). The Oil companies are Total Nigeria Plc., Forte Oil Plc., Externa Oil and Gas Plc., MRS Oil Nigeria Plc., Conoil Plc., Mobil Oil Nigeria Plc., Chevron Nigeria Plc., Capital Oil Plc., Eni Energy Plc, Niger Delta Exploration & Production Plc, Eland Oil & Gas Plc.

However, these eleven (11) Oil companies qualify for inclusion in the analysis because they have their financial data on the independent variables: air pollution, water pollution, land degradation, staff welfare, community welfare, and externalities. For the purpose of this study, performance shall be measured by the Return on Capital Employed (ROCE), Net Profit Margin (NPM), Dividend Per Share (DPS) and Earning Per Share (EPS).

The model for this study was developed to capture the interrelationships between the dependent variable and independent variables. Thus, the data were analysed using multiple regression analysis through the use of econometric model specified below:
ENVC = f (ROCE, NPM, DPS, EPS)

Where: ENVC = Environmental Accounting Disclosure Costs is the dependent variable

ROCE, NPM, DPS, EPS are independent variables.

Specifying it in econometric form, we have;
$ENVC = + a_0 + a_1ROCE + a_2NPM + a_3DPS + a_4EPS + \mu t$

Where; a_o, a_1, a_2, a_3, a_4 and µt represent Intercepts and error terms respectively.

The apriori expectation is that environmental reporting has positive relationships with ROCE, NPM, DPS, and EPS in the period under study. The amount spent by each Oil company as their environmental costs (on air pollution, water pollution, staff welfare (medical expenses), community welfare and externalities are used as proxies for environmental accounting reporting while ROCE, NPM, DPS, and EPS are used as proxies for corporate performance. The analysis is done based on profitability and investors' indices shown in Table 1.

The data obtained from the various financial statements of the eleven (11) companies using the above-stated indices, would be presented in a tabular form. The Multiple Regression Technique would be used for the analysis through the use of the econometric technique. The technique possesses the unique property of Best Linear Unbiased Estimator (BLUE) when compared to other estimating techniques. The Multiple regression estimate also possesses the desirable qualities of not bias, consistency, and efficiency. The statistics tested include the coefficient of determination (R^2), t-test, f-test and Durbin Watson (DW) statistics.

4. RESULT AND FINDINGS

The data were obtained from the published financial statements of eleven (11) Oil companies operating in Nigeria, particularly, the Oil companies in the Niger Delta. The eleven Oil companies represented the sample size of this study.

The descriptive statistics showed an average of N232,516,970 for environmental disclosure costs, 41.03% for return on capital employed, 15.09% for net profit margin and 76.84 kobo and 4.64 kobo for earnings per share and dividend per share respectively.

Table 1. Definition of independent variables

Type of variable		Formula
Profitability ratio	ROCE (Return on capital employed)	Profit before Tax (PBT) x 100 / Capital Employed
Profitability ratio	NPM (Net profit margin)	Net Profit x 100 / Turnover/Sales
Investment ratio	DPS (Dividend per share)	Gross dividend – Preference dividend x 100 / No. of ordinary shares in issue and ranking for dividend
Investment ratio	EPS (Earnings per share)	PAT before extraordinary items less preference dividend / No. of ordinary shares running for dividend

Where 'PAT' Means, Profit after Tax
Source: Researchers' compilation (2018)

Table 2. Descriptive statistics

	N	Mean	Std. deviation
ENVC	33	232516970	265633662
ROCE	33	41.0385	172.11743
NPM	33	15.0867	46.82995
EPS	33	76.8431	315.96598
DPS	33	4.6485	9.01268
Valid N (listwise)	33		

Source: SPSS Output (2018)

Table 3. Results of regression analysis

Variable	Coefficient	t-statistics	p-value
ROCE	.252	1.393	.175
NPM	.011	.063	.950
EPS	.152	.814	.423
DPS	-.114	-.618	.542
Adj.R^2	. 306		
Durbin Watson	1.683		

Source: SPSS Output (2018)

The result in table 3 above revealed that the explanatory variables, ROCE, NPM, EPS, and DPS have an insignificant relationship with ENVC with coefficients of .252, .011, .152 and -.114 and P-values of .175, .950, .423 and .542 respectively. The 30.6% Adjusted R^2 indicates the variation in ENVC margin and can be explained by variability in explanatory variables as well as control variables in the model. Durbin Watson value of 1.683 affirmed that there is no first-order autocorrelation among the residuals in the model. Therefore, the hypothesis that there is a significant relationship between environmental accounting disclosure and performance of the oil companies was rejected. The result is in agreement with the findings of Ruslaina et al. [23], who found that financial performance has no significant relationship with environmental reporting. However, the result is contrary to the discoveries of Turban and Greening [17], Cochra and Wood [18] and Makori and Jagongo [25] that found a significant relationship between environmental reporting and firm performance.

It is also observed from table 3 that, there are positive relationships between ROCE, NPM, and EPS and the dependent variable, which are in line with the apriori expectation except for DPS that is showing a negative relationship. The positive relationship between NPM and ENVC is in agreement with Makori and Jagongo [25]. The relationship is insignificant due to the fact that the majority of the oil firms' annual reports information on environmental reporting disclosures are qualitative rather than quantitative.

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

The study was conducted to investigate if there was any significant relationship between environmental accounting disclosure and the performance of the oil companies in Nigeria. Eleven oil companies were randomly selected to represent the sample size of the study. While the performance of the oil companies was measured using return on capital employed (ROCE); net profit margin (NPM) divided per share (DPS) and earnings per share (EPS). Secondary data were used, and they were extracted from the annual audited financial statements of the eleven oil companies used as samples. The results of the analysis showed an insignificant relationship between environmental accounting reporting and performance variables. It can, therefore, be concluded that the disclosure of environmental costs in Nigeria has no significant impact on performance. Based on the findings of this study, it is recommended that the government should make environmental accounting disclosure in annual report compulsory since most organisations hardly report their environmental activities in their report; and that Oil companies in Nigeria should, on their part, ensure that they comply with environmental laws of the

nation as it will go a long way in enhancing their corporate performances and on the long run engender economic growth and development.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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