

ENVIRONMENTAL COST DISCLOSURE AND FINANCIAL PERFORMANCE OF OIL AND GAS IN NIGERIA

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Abstract

The United Nations Organization (UNO) has done tremendous work on the issue of environmental activities in the different aspect concerning conservation, sustainability, management, protection and control and the overall impact on the world economy. This study empirically examines the effect of environmental cost disclosure and financial performance measures of quoted oil and gas companies in Nigeria. Time series data were collected from annual financial reporting and economic review of Central Bank of Nigeria; Pearson product moment coefficient of correlation and multiple linear regression analysis with the aid of special package for social sciences (SPSS) version 22. The econometric results reviewed adequate disclosure on environmental cost, compliance to corporate environmental regulations have positive significant effect on financial performance measures. Thus the study recommended regulatory enforcement for adequate environmental cost disclosure and proper reporting. Management of oil and gas companies in Nigeria should develop a well-articulated environmental costing system in order to guarantee a conflict free corporate atmosphere for improved corporate performance.

Keywords: Environment Cost Disclosure, Financial Performance Measure, Taxes, Fines and Profit Before Tax.

INTRODUCTION

Long but large, the performance of firms in terms of profitability largely depends on the nature of businesses they operate, and the possible legal, political and environmental regulations, which constitute an important item of public policy within the scope of their operation. The nature of business a firm operates defines the risks attached to such business and risk constitutes a significant factor in the profitability of the firm's operation. Higher financial risks constitute enormous treats to firms' profitability, though they are likely to attract huge amount of profits (Acti., Ifurueze., Lyndon & Bingilar, 2013; Arong, Ezugwu & Ebere, 2014; Karamba & Joseph, 2016, Malarvizhi & RanJani, 2015).

Mgbame (2013) observed that increasing emphasis on the role of corporations in ensuring environmental sustainability has necessitated the need for a multidisciplinary approach to issues of environmental protection. While it is observed that environmental practices have often been perceived as the opportunity cost of economic growth, the ideology of sustainable development is beginning to dominate the sphere of public policy. The implication on corporate entities in this regard is to reconfigure their corporate objectives to reflect the same levels of environmental accountability. However, environmental disclosures are discretionary, suggesting that corporations exert unimaginable control over the preparation and disclosure of social and environmental information. Consequently, a disturbing effect is that in most cases, firms' claims of being environmentally responsible may simply reflect an attempt at corporate branding (Adams, 2002; Al-Tuwarijri; Theodare., Christensen & Hughes, 2004; Artiach., Lee., Nelson & Walko, 2010; Karamba & Joseph, 2016; Malarvizhi & RanJani, 2016).

According to Field (2002), little was recognized of the environmental depletion and degradation to the environment until a few well meaning people in the developed countries realized that it was not good having great corporate profit⁵ without considering the cost of managing large scale of the ecosystem by which we are nourished. It became obvious that degradation, pollution and accelerated destruction of the ecosystem and the depletion of non-renewable environment biodiversity have serious impact on the financial performance of firms.

Dimowo (2010) observed that companies in pursuit of profits can do great social harm and the environment suffers, thus, there is an emphasis for a meeting point between corporate objective of profit maximization and the need for environmental management. In this regard, the need for environmental cost has become the concern and focus of nations and responsible corporate managements (Okoye & Ngwakwe, 2004). Environmental Management Systems (EMS) have emerged as a means to systematically apply business management to environmental costs to enhance a firm's long-run financial performance by developing processes and products that simultaneously improve competitive and environmental performance.

However within the developing nations, the understanding is somewhat different mainly because of weak government regulations and lack of organized pressure groups and consumer awareness to influence corporate behavior. Environmental expenditures in terms of effective organizational cost reduction are a highly viable approach toward managerial justification of environmental management system in enhancing profitability.

Thus, environmental cost provides a framework to environmental responsibility and corporate financial performance. The extent to which the environmental costs influence financial performance of firms is determined by some variables, such as community development costs, waste management costs and environmental taxes and fines. The impact of these variables on financial performance, represented here by return on total assets, return on capital employed and earning per share would be examined in this work. Since environmental protection has now become a global issue; managers have to focus their attention on creating biodegradable products that can be recycled.

It is based on this background, that this study is intended to look into the effects of environmental cost on the profitability of oil and gas firms in Nigeria. The study provides insight on how firms report environmental cost, quantitative (verifiable or auditable) environmental information in their annual reports and the extent this reasonably affects the firms' profitability and overall financial performance. Parameters on environmental cost ranging from community development cost, waste management cost & pollution control, environmental taxes and fines will be examined.

The remainder of this empirical paper is organized as follows. In the next after the introduction is the review of related literature, which contains the theoretical framework, conceptual framework, empirical studies, and hypotheses. Section three is the methodology. In it is the research design, data collection method and statistical analysis with model specification. Section four consists of econometric results and discussion. Section five offer conclusion, recommendation, limitation and suggestion for further studies.

Review of related literature and hypotheses Development

This theory was postulated by Hetch in 1999, and is formulated on the basis of environmental cost reduction model. It states that the lowest environmental costs will be attained at the point of zero-damage to the environment. It is considered that before environmental costs information can be provided, environmental costs must be defined. Environmental quality model is the ideal state of zero-damage to the environment, 'which is analogous to environmental quality management (EQM), a zero-defect state of total quality management. This is certainly compatible with the concept of eco-efficiency. Environmental costs incurred are costs arising because poor environmental quality exists or may exist and these have to be prevented, reduced or remedied. Various theories such as the Stakeholder's theory, the Political economy theory and the corporate social responsibility theory have been found relevant to this work. Also in the environmental theory postulated by O'Riordan (1997), Pepper (1986) and Dobson (1990) as cited by Acti et al (2013), emphasizes the need for environmentally friendly products and clean technology and stresses the need for business to produce a balanced report that includes reporting the impact of business activities on the environment. This study adopts the Environmental Quality Cost Management Theory.

Environmental Cost

Environmental costs consist of environmental measures and environmental losses. They include cleanup costs, costs of recycling materials or conserving energy, closure costs, capital expenditure and development expenditure. These costs are incurred in preventing, reducing or repairing damage to the environment and conserving resources. However, environmental losses are costs, which bring no benefits to the business. Such as, fines, penalties, compensation, and disposal losses relating to assets which have to be scrapped or abandoned because they damage the environment (Wright & Noe, 2006). Environmental costs are the environmental damage, an entity costs to the environment and its users as a result of its

operations. There is also the general concern that environmental cost reduces operating flexibility, slow productivity of companies.

Accounting for environmental costs Though, the issues of environmental and social reporting are not explicitly provided for in the companies and allied matters act but has been catered for by both local and international standards like ISAR, Global reporting Index (GR). Corporate performance is no longer seen simply as being equivalent to and consequently measurable in terms of profitability alone. Information on the accounting for environmental costs is now required. Each types of cost are to be considered as it arises so as to accord it the appropriate treatment in line with Generally Accepted Accounting Principles (GAAP5).

According to ICAN (1999), Fines and penalties paid of non-compliance with environmental regulations are charged to the profit and loss account in the period in which they are incurred, regardless of whether the activities that resulted in the penalties had taken place in an earlier accounting period. If the entity has to embark on fundamental reorganizations or restructuring or to discontinuing particular activities in order to protect the environment, the costs (if material) should be treated as exceptional items and shown on the profit and loss account. Environmental costs are often hard to define from a business standpoint. When substances are released into the air, water or land, the resulting pollution is considered a social cost. But some of the new regulations have resulted in internalization of some of these externalities, for example requirement of additional investment in equipment or training, or for fines and fees resulting from noncompliance (Murphy, 2010).

Since there is no global definition of what costs should be considered, the concept of environmental cost in this study will be referring to monetary costs carried by producing companies, the total amount spent on environmental protection.

The following criteria have been used in this study to distinguish between environmental cost and other costs. Any cost that could be related to the environmental impacts of a product or a manufacturing process is an environmental cost. Additionally, any costs that arise due to general environmental work in a company are also environmental costs.

The tax on carbon dioxide is definitely an environmental cost and wages to employees in the public relations department most often are not environmental costs. In other cases the distinction becomes more complicated. Investments that are partly motivated by environmental concerns, and wage to personnel in charge of among other things the environmental department of a company, could be considered environmental costs, but to what extent is not always obvious.

According to Stefan et al (2004), the environmental costs are approximately 5% of total sales, which became worrisome and posed threat to profitability. As new legislations and increased tax rates lead to additional environmental costs, which remain an important issue for operational performance in the chemical companies.

Environmental Investments/waste management

Investments in production equipment might be made in order to reduce environmentally hazardous emissions. Such investments are considered environmental costs. Most investments however are not made solely for environmental purposes but also to increase the utilization capacity. These investments are not considered as entirely environmental but also as regular investments. In these cases the environmental costs only consist of the part of the investment considered an environmental investment.

Waste produced by a process often has to be processed before being released to the environment. Some of the waste can be handled by the company itself, other waste is better handled by external waste treating companies. Handling of the waste causes environmental costs either way. The cost of waste transportation is also considered an environmental cost to include depletion of natural resources, noise and aesthetic impacts. Residual air and water emissions, long-term waste disposal.

Thus, accounting became concerned with achieving new goals such as measuring and evaluating potential or actual environmental impacts of projects on organizations' performance. These new goals are of great importance as they enable many users to take different development decisions that are economically and environmentally sound (Bala and Yusuf, 2003). Ali (2002) identified the main reasons of accounting interest in the environment to include; environmental costs which can be significantly reduced and eliminated as a result of business decisions, ranging from operational and housekeeping changes to investment in cleaner production, to redesign of processes/products. Also environmental cost (and, thus potential cost savings) may be obscured in overhead accounts or otherwise overlooked.

For the above reasons, it is believed that accounting should be responsible for measuring, evaluating and disclosure of environmental performance in financial statements or in its attachments. No doubt that measuring environmental performance depends on accounting systems but needs data, other than the conventional accounting data, such as pollution ratios. Monetizing environmental issues may not be totally accurate but, economists and accountants have to give best estimates, according to the current level of knowledge, and techniques used (U.S. Environmental Protection Agency (EPA), 1995 and Hamid, 2002).

Firm's Performance and profitability

The concept of firm performance needs to be distinguished from the broader construct of organizational effectiveness. Venkatraman and Ramanujan (1986) offered an enlightening figure of three overlapping concentric circles with the largest representing organizational effectiveness. This broadest domain of organizational effectiveness includes the medium circle representing business performance, which includes the inner circle representing financial performance. Organizational effectiveness covers other aspects related to the functioning of the organization as absence of internal strain and faults, engagement in legitimate activities, resource acquisition and accomplishment of stated goals (Cameron, 1986). Business performance, or firm performance as we refer to it in this study, is a subset of organizational effectiveness that covers operational and financial outcomes.

The definition of firm performance and its measurement continues to challenge scholars due to its complexity. In this paper, efforts are made by creating and testing a subjective scale of performance that covers the domain of business performance in the words of Venkatraman and Ramanujan (1986).

Empirical Review

This study reviewed considerable literatures both local and international works on the subject matter to provide reasonable findings to enhance the achievement of the stated objectives.

Malarvizhi and Ranjanni (2016) conducted a research to examine whether there is any significant relationship between Corporate Environmental Disclosure (CED) and firm

performance of selected companies listed in Bombay Stock Exchange (BSE), India. They use content analysis methodology by developing an environmental disclosure index (EDI) and formulating hypotheses to test the association between firm performance and level of environmental disclosure. Primary data was collected using questionnaire instrument. A regression model with EDI as dependent variable and return on capital employed (ROCE), return on assets (ROA), net profit margin (NPM) and earnings per share (EPS) as independent variable is used to analyze data for this research. Results show there is no significant relationship between the level of environmental disclosure and firm performance. They recommended that corporate organizations should be educated on the benefits of better environmental performance and encouraged to comply with the requirements for long-term survival. As part of environmental governance government should include education on ethical environmental disclosure at societal level, school level.

Shehu (2014) examines the effect of environmental expenditure on the performance of quoted Nigerian oil companies, within a period of twelve years (1999-2010) using selected firm financial statement of all quoted oil companies listed in the Nigerian Stock Exchange. The data was analysed using multiple regression, employing ROA and three independent variables; Cost of Environmental Remediation and Pollution Control (ERPC), Cost of Environmental Laws Compliance and Penalty (ELCP), Donations and Charitable Contributions (DCC).

The result reveals that environmental expenditure has significant effect on the performance of quoted oil companies in Nigeria. They therefore recommended among other things that the management of oil companies in Nigeria should increase spending on environmental issues in their host community in other to improve their performance.

The interest here is to provide a synopsis of environmental cost disclosure empirical research in developed and less developing countries. Although the historicity of environmental cost disclosure is not new, however, its popularity and growth is a recent trend.

As an emerging field in accounting, the literature is just burgeoning.

Table 1: Webometric Analysis of Environment Cost Disclosure and Financial Performance of Oil and Gas Companies in Nigeria.

Authors and Year of Publication	Title of Article	Journal Volume Number and Pages
Acti, Ifurueze; Lyndon & Bingilar (2013)	The impact of environmental cost on corporate performance: A study of oil companies in Niger Delta states of Nigeria.	Journal of accounting and business management, 12(4),388-401
Adams (2002)	International organizational factors influencing corporate social and ethical reporting beyond current theorizing.	Accounting, Auditing and accountability journal. 15(2),223-250
Aert; Cormier & Maynam (2013)	Inter-industry imitation in corporate environmental reporting: An international perspective.	Journal of accounting and public policy. 25(3),431-523.
Alexander & Buchholz	Corporate social responsibility	Academy of Management

(1978)	and stock market performance.	Journal. 21(3),479-485
Alfieri, (1998)	Environmental Protection Expenditures: The Experience of Developing Countries	
Al-Tuwaijri, Theodore, Christensen, & Hughes, (2004).	The relations among environmental disclosure, environmental performance, and economic performance: A Simultaneous Equation Approach	Accounting, Organizations and Society, 29(2),447-471.
Arntzen (1997)	Sustainable development and environmental assessment.	Splash, 13(1),10-13.
Artiach, Lee, Nelson, & Walker. (2010).	The Determinants of Corporate Sustainability Performance.	Accounting and Finance 50 (1): 31-51.
Arong; Ezagwu & Egbe (2014)	environmental cost management and profitability of oil sector in Nigeria (2004-2013)	Journal of good governance and sustainable development in Africa. 2(2),41-53.
Bailey & Soyka (1996)	Environmental accounting – making it work for your company.	Total quality environmental management journal. 5(4),13-30
Bansal & Roth (2000)	Why companies Go Green: A model of ecological responsiveness	Academy of management journal. 43(4), 717-736
Bartelmus, Lutz, & Schweinfest (1992).	Integrated environmental and economic accounting: A case study for Papua-New Guinea.	World Bank Environmental Working Paper. 54(5), 5 8-73.
Bartolomo; Bennett; Bouma; Hgydkamp; James & Wolters (2000)	Environmental Management Accounting in Europe: Current practice and potential	The European Accounting Review.9(1),31-52
Bassey; Sunday & Okon (2013).	The impact of environmental accounting and reporting on organizational Performance of selected oil and gas companies in Niger Delta region of Nigeria.	Research Journal of Finance and Accounting ISSN 2222-2847 (Online) 33(3), 56-71.
Becchetti; Giacomo & Pinnachio (2005).	Corporate social responsibility and corporate performance: Evidence from a Panel of US listed companies.	Working Paper 78, University of Rome Tor Vergata, Rome37(4), 5 1-73.
Belal & Owen (2007).	The views of corporate managers on the current state of, and future prospects for, social reporting in Bangladesh: An engagement-based study’,	Accounting, Auditing & Accountability Journal, 20(3), 472-94.
Birkin (1996)	Environmental management accounting.	Management accounting. 74(2), 34-37.
Burritt, Hahn, & Schaltegger, (2002a)	An integrative framework of environmental management accounting.	Environmental Management Accounting: Informational and Institutional Developments 18(9), 21-35

Burritt; Hahn & Schaltegger (2002b).	Towards a comprehensive framework for environmental management accounting - Links between business actors and environmental management accounting tools’.	Australian Accounting Review, 12 (2), 39-50.
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Clarkson; Li; Richardson & Vasvari (2008).	Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis.	Accounting, Organizations and Society 33 (3), 303—27.
Clarkson; Li; Richardson & Vasvari (2011).	Does It really pay to be green? Determinants and consequences of proactive environmental strategies.’	Journal of Accounting and Public Policy 8(3 0) 122-144
Daniel & Ambrose (2013)	Environmental accounting and profitability of selected firms listed in India.	International journal of Humanities and social science 3(18),23-40
Deegan & Blomquist (2006).	Stakeholder Influence on corporate reporting: An exploration of the interaction between WWF-Australia and the Australian minerals industry.	Accounting, Organizations and Society, 31(4), 343-472.
Deegan; Rankin & Tobin (2002).	An examination of the corporate social and environmental disclosures of BHP from 1983-1997: A test of legitimacy theory.	Accounting, Auditing & Accountability Journal, 15 (3), 3 12-421.
Deegan & Gordon (1996).	A study of the environmental disclosure practices of Australian corporations.	Accounting and Business Research, 26 (3), 187-199.
Delmas & Toffel (2004).	Stakeholders and environmental management practices: An institutional framework.	Business Strategy and the Environment, 13(6), 209-22.
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Florida & Davison (2001).	Gaining from Green Management: Environmental Management Systems Inside and Outside the Factory.	California Management Review, 43 (3), 64-84.
Freeman (1983).	Toward an epistemology for radical accounting: beyond objectivism and relativism.	Critical Perspectives on Accounting, 6(1),48 5-496.
Gray, Kouhy & Layers (1995)	Corporate social and environmental reporting: A review of the literature and a longitudinal study of UK disclosure.	Accounting, Auditing & Accountability Journal, 8(2),47-77.
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Hasnas (1998).	The Normative Theories of Business Ethics: A Guide for the Perplexed.	Business Ethics Quarterly, 8(1), 19-42.
Hoffman (2001).	Linking organizational and field-level analyses: The diffusion of corporate environmental practice.	Organization & Environment, 14 (2), 133-25 1.
Horvathova (2010).	Does environmental performance affect financial performance? A Meta-Analysis.	Ecological Economics 70 (1), 52-69.
Ifurueze, Lyndon & Bingilar (2013)	Impact of environmental cost on corporate performance of Oil companies in Niger Delta States of Nigeria.	Journal of Business and management, 2(2),30-40
Iwata & Okada (2011).	How does environmental performance affect financial performance?	Ecological Economics 70 (9), 169 1-700.
Jasch (2001).	Environmental performance evaluation and indicators.	Journal of Cleaner Production, 8(4),79-88.
Uwalomwa & Ben-Caleb(2012)	Corporate social responsibility disclosures in Nigeria: A study of listed financial and non-financial firms.	Journal of management and sustainability, 2(2),1-6

Karambu & Joseph (2016)	Effect of corporate environmental disclosure on financial performance of firms listed at Nairobi securities exchange.	International journal of sustainability management and information technologies, 2(1),1-6
King & Lenox (2001).	Does It really pay to be green? An empirical study of firm environmental and financial performance.	Journal of Industrial Ecology 5 (1), 105-16.
King & Lenox (2001).	Exploring the Locus of Profitable Pollution Reduction.	Management Science, 48(6), 289-299.
Klassen & McLaughlin (1996).	The Impact of Environmental Management on Firm Performance.	Management Science, 42(8), 1199-2 14.
Lawrence & Cerf (1995).	Management and Reporting of Environmental Liabilities.	Management Accounting, 77, (2), 48-54.
Lober (1998).	Pollution Prevention as Corporate Entrepreneurship	Journal of Organizational Change Management, 11(1), 26-37.
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Malarvizhi & Ranjani (2016)	Link between corporate environmental disclosure and firm performance. Perception or reality?	Review of integrated business & Economic research, 5(3),23-26
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HYPOTHESES

H₀₁: There is no significant relationship between Environmental Cost Disclosure and financial performance of oil and gas companies in Nigeria.

H₀₂: Environmental cost disclosure does not exert any significant influence on Earnings Per Share of oil and gas companies in Nigeria.

Research Methodology

Creswell & Clerk (2007), a research design is the scheme, outline or plan that is used to generate answers to research problems. The research design adopted causal comparative research design fits in for this study because it reveals a cause/effect of relationship between variables and at the same time it determines the nature of the relationship between the antecedent (independent) variable and the consequent (dependent) variable; therefore this types of research design selected takes care of both variables (Nwaiwu, 2014).

Time series data regarding the variables were sourced from “corporate statement of financial position and accounts data of quoted oil companies extracted from annual published accounts of the organization. These reports were obtained from various sources including: Nigerian stock exchange, companies head offices, Nigeria investment promotion commission reports, federal bureau of statistics. Other sources include reports of World Bank, International Monetary Fund, United Nations on Nigeria, Central Bank of Nigeria, (2016), volume 32, CBN 2015 statistical bulletin, annual CBN reports and financial statements of 2011-2015 and the National Bureau of statistics.

The choice of secondary data and its sources were based on the fact that the data are assumed to be reliable, suitable and adequate for the nature, scope and objectives of the study and are therefore assumed to be error free. The data collected was analysed using Pearson product moment correlation coefficient and multiple regression analysis with the aid of special package for social sciences version 24.0.

Model Specification

The model specification is based on the theory that environmental cost disclosure and financial performance relates Acti et al (2013); Karambu & Joseph (2016). Specifically, the model from related empirical evidences used by Acti & Ifurueze (2013), Beredugo & Sunny (2014) was adopted but we made modifications. We generated a model to achieve the first objective and answer the corresponding research questions. Consequently, the model specification was formulated in the following functional forms:

$$EPS_{ji} = f(WMC_{ji}, L\Sigma R_{ji}, PAC_{ji}) \quad (i)$$

Expanding functional forms into mathematical forms as thus:

$$EPS_{ji} = \beta_0 + \beta_1 WMC_{ji} + \beta_2 L\Sigma R_{ji} + \beta_3 PAC_{ji} \quad (ii)$$

These functional or deterministic forms and mathematical forms do not have a random or stochastic variable and since in statistical relationship we deal with random or stochastic variables, that is variables that have probability distribution, the above function equations are stated in equations that describes how the dependent variables are related to all the independent variables and can stochastic error term or stochastic disturbance terms stated as a multiple regression model as follows:

$$EPS_{ji} = \beta_0 + \beta_1 WMC_{ji} + \beta_2 L\Sigma R_{ji} + \beta_3 PAC_{ji} + \mu_{ji} \quad (iii)$$

Where, β_0 = Intercept term (parameter), $\beta_1 - \beta_3$ = regression coefficients, μ_{ji} = Error term, ji = Period of time; EPS_{ji} = Earnings Per Share. WMC_{ji} = Waste Management Cost; PAC_{ji} = Pollution abatement cost; $L\Sigma R$ = Laws and Regulations.

ECONOMETRIC RESULTS:

The starting point for the analysis of econometric results is to present the salient features of the main constructs and variables of study under investigation are presented and discussed below:

H_{01} : There is no significant relationship between environmental cost disclosure and financial performance measures of oil companies in Nigeria.

Table 1: Relationship between Environmental Cost Disclosure and Financial Performance measures of oil companies in Nigeria

		Environmental Cost Disclosure	Financial performance measures
Environmental Cost Disclosure	Pearson correlation	1.000	.468***
	Sig (2-tailed)	.8	.000
	N	8	8
Financial performance measures	Pearson correlation	.468***	1.000
	Sig (2-tailed)	.000	.8
	N	8	8

*** Correlation is significant at 1% level (2-tailed)

Table 1 above presents the test result of the relationship between Environmental Cost Disclosure and financial performance measures of oil companies in Nigeria. The table revealed a correlation coefficient of r value of .468 significant at 1% probability level and p -value of .000 suggests the existence of significant positive relationship between environmental cost disclosure and financial performance measures of oil companies in Nigeria. Hence, the null hypothesis is rejected. This empirical result agrees with the findings of waste management cost, environmental taxes and fines, laws and regulations, abatement cost.

H₀₂: Environmental Cost disclosure does not exert any significant effect on Earnings Per Share of oil companies in Nigeria.

Table 2: Effect of ECD on Earnings Per Share of oil companies in Nigeria.

Variables/Test Statistic	Linear function	Exponential function	Semi-log function	double-log function
Construct	3.735E8* (.674)	16.782*** (8.757)	-2.214E9*** (-3.755)	9.170*** (4.971)
X ₁ : Waste Management Cost	3.163E7 (1.490)	.030* (.423)	3.127E8* (1.491)	.182*** (.268)
X ₂ : Pollution Abatement Cost	-1.534E8*	-.959* (-.719)	-1.160E8* (-.504)	-.810*** (-1.091)
X ₃ : Laws and Regulations	1.205E8* (.194)	-.388* (-.743)	3.265E8* (.914)	-1.572 (4.101)
R.	.679	.625	.601	.644
R ²	.461	.391	.361	.415
Adjusted R ²	.387	.435	.393	.467
Std Error of the Estimate	3.10654E8	1.03100	3.09337E8	1.00250
F-ratio	4.824***	5.70,***	5.004***	6.446***
Durbin – Watson	1.762	2.355	1.727	2.307

“Note: * significant at 1%; ** = significant at 5%; * = significant at 10% above. t-values are shown in parenthesis.

Table 2 shows the empirical test of the effect of environmental cost disclosure on Earnings Per Share of oil companies in four functional forms, based on the number of significant factors and the statistical values of the correlations coefficient (r), coefficient of determination (r²), Adjusted R², standard error of the estimate, Durbin-watson and f-ratio. But in terms of the number of significant variables and the statistical values of the test statistic, the Double-log function yielded the best fit and is accordingly used in our discussion. The f-ratio of .6446 is indicated to be significant at 1% probability level and provides sufficient evidence that the model specification is appropriate. However, the empirical results show that environmental cost disclosure accounts for 64.5% of the changes in Earnings Per Share with 35.5% due to other factors of the three components of environmental cost disclosure, waste management cost and pollution abatement cost is shown to have significant effect on Earnings Per Share of oil companies in Nigeria. This alternatively indicates that improvements in a waste management cost and pollution abatement cost are most likely to translate in growth in the Earnings Per Share of oil companies in Nigeria. However, laws and regulations are shown to have insignificant effect on Earnings Per Share of oil companies in Nigeria. The finding is inconsistent with findings in previous studies by Makori & Jagongo (2013).

Conclusion and Recommendations

The study examined the impact of environmental cost disclosure on financial performance of quoted oil and gas companies in Nigeria. Multiple Regression Techniques was used for the analysis. Result indicates that ROA is not significantly affected by environmental cost disclosure (WMC&ETF) as tested under the Hausman random effect model, But Hausman fixed effect test shows that environmental costs disclosure has significant effect on firms' financial performance, and is capable of affecting the future earnings (ROA) of the listed oil

and gas companies positively. It was also discovered that environmental cost disclosure does not significantly affect return on capital (ROCE) as observed in the overall model. Environmental cost disclosure enhances the earnings per shares (EPS) of the oil and gas companies which aligned with the a priori expectation of the study as shown in the work of Daniel (2013).

With the growing concern for sustainable development, environmental cost and resource accounting becomes paramount in promoting firms profitability and environmental conservation as well.

This study recommends that proper environmental accounting may play an important role to provide the needed data on environment to different users as follows:

1. Environmental reporting should ensure proper Corporate Environmental Stewardship of organizational activities.
2. There is a need for proper charging and allocation, distinguishing between environmental costs and other costs will lead to a proper cost allocation of these costs and thus more precise and will help to develop sustainability indicators.
3. Measuring environmental cost is said to depend on accounting systems, there is also the needs for more data other than the conventional accounting data, such as pollution ratio and greenhouse depletion.
4. Management of oil and gas companies in Nigeria may develop a well-articulated environmental costing system in order to guarantee a conflict free corporate atmosphere for improved corporate performance.
5. Environmental regulatory authority should be more committed to ensuring that environmental cost components are individually and separately disclosed for efficient reporting.

Limitation to the Study

Empirical work on environmental cost in Nigeria is a recent area of study and characterised by complex information non-disclosure from the oil companies. This is the case face by this work, more so information availability in the oil and gas sector is rarely available for easy access because of the strict nature of their operations. This constitutes major difficulties in conducting this study, as there are very few works with respect to environmental cost accounting and usually had to be mixed up with social responsibility cost.

Furthermore, a number of oil and gas companies in Nigeria still do not have licences to operate and be quoted in the Nigerian stock market. There are few ones operating and are been quoted in the stock market, Hence the extent of obtaining published financial reports and prior research literature available on environmental cost from these companies was limited.

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