

## **ENVIRONMENTAL FRIENDLY POLICIES AND THEIR FINANCIAL EFFECTS ON CORPORATE PERFORMANCE OF SELECTED OIL AND GAS COMPANIES IN NIGER DELTA REGION OF NIGERIA**

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### **Abstract**

*Environmental friendly policies are those policies which are concerned with the environmental protection processes and further ensure that there is a logical determination of the costs of environmental degradation due to industrial activities, and internalize them in corporate accounts to the extent possible. This study was carried out on the environmental friendly policies and their financial effects on corporate performance of selected oil and gas companies in Niger Delta Region of Nigeria. It was aimed at investigating if companies operating in the Niger Delta Region of Nigeria practice environmental accounting to the extent of inclusion of environmental friendly policies, and if so, how this affects the profitability of these companies. Data were collected from both primary and secondary sources. Thereafter, the data were analyzed using simple ordinary least square regression method and the study hypothesis was also validated. It was revealed that the cost of ensuring environmental friendly policies as well as firm competitiveness have significant relationship with the firms' profitability (Corporate performance). Thus it was concluded that the related cost of environmental protection and management positively influences a firm's profitability; and environmental friendly organization enjoy high level of corporate competitiveness resulting in high performance. The study therefore recommended that firms should formulate and implement environmental friendly policies to enhance their competitiveness, acceptability and stability, which would subsequently result in high performance.*

**Keyword:** Environmental friendly policies, corporate performance, environmental accounting practice, positive accounting theory.

### **Introduction**

Accounting has an instrumental role in disclosing environmental responsibility for different entities whether industrial or commercial services, and at all levels whether micro, meso and macro. Thus, accounting became concerned with achieving new goals such as measuring and evaluating potential or actual environmental impacts of projects and organizations. 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).

The awareness of the environmental and man's ability to cause damage started from the fifties of the 19<sup>th</sup> century. This concern had been repeatedly expressed in series of international summits and consensus right from the sixties. The starting point that comprised an organized thought proves on a large scale the celebrated public action of the club of Rome entitled "Limits to Growth" that initiated a worldwide debate of economic growth at the expense of natural environment (Shil and Iqbal, 2005). The world conference held in Stockholm on global environment in 1972 (June), where the heads of the states all over the world came together for the first time, was the pivotal event in the growth of the global environment movement.

It was the first occasion on which the political, social and economic problems of the global environment were discussed at an inter-governmental forum with a view to take corrective action. It aimed to create a basis for comprehensive consideration with the United Nations of the problems of the human environment and to focus the attention of the governments and public opinion to various countries on the importance of the problem. It ultimately gave birth to special UN Agency titled "UN Environmental Programme (UNEP).

In the mid-eighties, on the basis of changing situation and becoming the environmental issues, a world-wide phenomenon on the developed and developing countries, “World Commission on Environment and Development (INCED), known as “BRUNTLAND COMMISSION” headed by Norway's Prime Minister, Mrs. Gro Harlem Brundtland, was established by the UN. The commission published a report called “ Our Common Future,” in 1987, with the proposed concept of “sustainable Development.” The concept received worldwide acceptance and led to the convening of the UN conference on “Earth and Development (UNCED), in Rio de Janeiro, Brazil known as Earth Summit. In this conference, heads of different states signed four agreed documents including the “Agenda 21.” The Agenda – 21 contains a checklist of do's and don'ts to protect the environment throughout the next century. Particularly, the role of corporate entities in respect of overall management of the environment has been duly recognized in the conference (Touche, 1996).

The researcher's interest in this study was therefore to investigate if oil and gas companies operating in the Niger Delta region of Nigeria practice environmental accounting to the extent of including environmental friendly policies, and if so, determine the financial effects of this, on the profitability of their companies.

### **Review of positive accounting theory**

This theory explains why firms make voluntary social disclosures and suggests some of the environmental friendly policies which should be formulated and implemented by industrial firms to the environment to prevent it from degradation. Based on the original work of Watts and Zimmerman (1986), the positive accounting theory has directly sought to establish evidence for the socio-political cost hypothesis as an explanation for firm's social disclosures.

Along with other authors and researchers, Gray, Kouhy and Lavers (1995), dismissed the positive accounting arguments on the grounds of the underlying assumptions of the theoretical framework. As suggested by them, positive accounting theory is not about what (socio-political) reporting should be, but rather about what it is. Consequently upon this fact, and on the basis of explaining why firms are making socio-political disclosures, positive accounting explanations are less easily dismissed. cursory observation, for example, reveals that positive accounting explanations rely on empirical evidence largely identical to that used in support of other explanations (most notably, legitimacy theory) of social disclosures; explanations which incidentally Gray, Kouhy and Lavers (1995) seem to find more acceptable. Again as noted by Gray, Kouhy and Lavers (1995), a number of empirical studies have shown strong association between disclosure and firm size, and between disclosure and type of industry. In fact, the size disclosure relationship appears empirically the most robust. Such results are claimed in support of legitimacy theory (Deegan and Gordon, 1996), as well as in favour of positive accounting theory.

### **Reasons for measuring, evaluating and disclosure of environmental performance in firms' financial statements**

Ali (2002) identified the main reasons of accounting interest in the environment as follows:

- Many environmental costs can be significantly reduced or eliminated as a result of business decisions, ranging from operational and house keeping changes to investment in cleaner production, to redesign of processes.
- Environmental cost (and, thus, potential cost savings) may be obscured in overhead accounts or otherwise overlooked.
- Many organizations have discovered that environmental costs can be offset by generating revenues through sales of waste by-products, for examples.
- Accounting for environmental cost and performance can support an organization's development and operation in an overall Environmental Management System (EMS).
- Environmental expenditures whether capital or operating costs increase dramatically day after day.
- Management needs financial data about these expenditures.
- For strategic cost leadership (driving cost).
- There is need to prioritize these expenditures.
- There are increasing needs from different stakeholders (government, investors, lenders, banks, non-governmental organizations, etc) to have financial data on environmental performance of different organizations.

- If accounting does not provide financial data on the environmental performance or organizations that will help non complying organizations to pollute environment and spoil resources and yet appear more economic efficient than other which incur costs to protect the environment.
- Naturally any entity has a main output and a secondary output of which mainly polluters can destroy and if the entity does not incur costs to mitigate or prevent it a third party in the society may have to bear it.
- Environmental risks may result in huge environmental liabilities and subsequently the organization may be obliged to outlay payments which may affect seriously the liquidity and the financial position of the organization.
- Managing resources properly in an environmentally friendly way will result in a competitive advantage for such organizations.
- There is a general trend to evaluate the organization's performance according to its social and environmental effectiveness and not only on its economic effectiveness.
- Current practices demonstrate that, no track for environmental costs was available as it was charged randomly. Therefore, 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 precise pricing and will help to develop sustainability indicators.

### **Environmental accounting policies and/approaches leading to environmental friendliness.**

Two policies/approaches are adopted in environmental accounting. Firstly, the physical policy/approach was suggested by the United Nations, where a complete guide is to be prepared indicating the available resources within a country, classified according to its state and uses (for instance, agriculture, desert land, etc). Depending on this policy/approach, the environmental operations are presented in a physical terms, the current balance of the resource and the additions and deductions from that resource. No monetary value is assigned according to this policy (Ahamed, 2002). The monetary policy/approach emerged due to the fact that the physical policy/approach does not fulfill the requirements of the environmental accounting. The physical approach is very important to get physical information about the resources which enables the preparation environmental statistics and is considered the first step in the monetary approach. Despite the difficulties associated with the monetary approach, it gained a lot of interest as such that data generated from the approach will enable one to know the profit and loss associated with environmental operations and to get an environmentally adjusted economic indicator (Hamid, 2002).

### **Integrating environmental friendly policy in business strategy**

The adoption of environmental friendly policy as a component of business policy is currently considered voluntary (Gallhofer and Haslam, 1997). The term adoption implies that business policy was without express concern for the environment, and since the mid 1990s environmental policy has become a proactive decision of business organization.

An alternative view is given as business response to a threat of interventionist regulation. An organized lobbying effort, to forestall additional, more interventionist regulation, has been unsuccessful through the history of environmental protection since the 1970s (Matthews, 1997) further, the cost of response to increasing regulation provides a real incentive to adopt a proactive approach to the environment.

The proactive approach is not only more cost-effective, but it also opens new business avenues. For new business, worldwide and in "green" markets (eco-labeling and recycling), opportunities are open to a company that is expressly environmental, not necessarily an extreme "green" company (Matthew, 1997).

From new avenues, cost savings are achieved through energy conservation and waste minimization. These savings, which increase profitability, are generated by production and engineering disciplines. For example, the contribution from strategic management specialists and the technical expertise required to address product problems of recycling and re-engineering will be jointly necessary in the development of strategies of reducing impacts on the environment. In both approaches, the companies' competitive advantages is improved (Yakhou and Donweiler, 2004).

### **Integrating the environmental department with business functions to enhance business environmental friendliness**

An objective of integration of the environmental management department with operational functions is to enhance environmental performance of the organization (Fryxell and Vryza, 1999). So the levels and mechanisms of integration to achieve improved environmental performance, are of organizational interest.

One level of integration is aimed at involving environmental considerations in every day decisions. The integration is based on the level of adopting a corporate culture into environmental awareness. This crucial approach puts the impetus for considering environmental impacts into business strategy and decisions.

The other level of integration is organizational, deciding which business functions have a conventional purpose in the hierarchy of the organization integration takes the form of coordination. Organization theorists identify such mechanisms as conventional and as non-conventional. Non-conventional is in the context where the environmental exerts direct influences on the organization through regulations, international standards and shareholders.

As pointed out by Fryxell and Vryza, 1999, the two sets of integration mechanisms are as follows:

<b>Conventional</b>	<b>Non-Conventional</b>
* Departmental	* Cross departmental relations
* Central decision-making	* Management Information System
* Written Policies and Procedures	* Ad hoc group mechanisms
* Formal planning	* Integrator roles
* Output behaviour control	* Socialization

It is recognized that conventional mechanism exists, and are displaced by non-conventional ones to cope with time- oriented changes; these changes are in the environment or are required in environmental performance (Yakhou and Aorweiler, 2004).

### **Environmental policy and environmental regulation**

There is a growing understanding that environmental policy must fit within the company's business strategy (Gallhofer and Haslam, 1997). The question is whether a voluntary policy should forestall regulation (interventionist regulation). As environmental policy and environmental performance are expected to be above legal regulation, there is interest to change from regulatory policy to voluntarisms. An intermittent ground is to avoid regulation of environmental accounting. Environmental accounting is parallel to financial accounting: an environmental plan is developed and budget control established to the plan. Following environmental performance based on the plan, an environmental audit for the environmental impact is performed. By imposing standards on environmental accounting and environmental auditing the company is left to set standards for performance without regulatory intervention (Reynolds and Reynolds, 2001).

Bebbington (1997), recognizes the realism of actualizing impacts on society by business organizations and individuals. The business organization has impact through capital, ownership and societal usage of products and services, with impact on the environment's resources units, suits and habitats. Environmental accounting translates into how environmental practice adopts to beneficial impacts on the environment. From environmental accounting comes accountability for effects on and uses of the environment.

So then, environmental accounting is the enabling vehicle to form a common basis for users of the environment in terms of:

- Internal (capital, ownership, consumers), and
- External (social-political) controls.

The effect vehicle is environmental reporting (Doweiler and Yakhou, 2002). Reporting portrays accountability to outside interests. These interests may require openness and transparency regarding the environment and require change in the organization changes in business products and processes, and change in organization structure. While such changes are easy in developing a projection for change to occur in other business areas (Bebbington, 1997; Reynolds and Reynolds, 2001).

## Research methodology

This study was designed as a quasi-experimental study. Under this, both the survey research and case study approaches were used. A cross-sectional survey was used in order to describe the nature of the universe or population as well as determine the nature of relationship between variables at a point in time. The survey design, supported by selected case studies, were the most appropriate structure to apply in the research because under this, a wide array of written and verbal responses were obtained from respondents through the use of observation, questionnaires and interviews. The study area was the Niger Delta Region of Nigeria. This geographical area is made up of Abia, Akwa Ibom, Bayelsa, Cross River, Delta, Edo, Imo, Ondo and Rivers States. The key research elements involved in the study were accounting and environmental management departments of Exxon Mobil, Shell Petroleum Company, Chevron Petroleum Company and Agip Petroleum Company. The justification for selecting the above firms was based on the fact that these firms are responsible for about 70 percent of oil and gas exploration in the Niger Delta Region of Nigeria.

## Result and test of hypothesis

The table below shows analysis of data obtained in the study:

**Table 1:** Regression result showing/measuring relationship amongst environmental friendly policy (ENVFRIENPO), firms' Competitiveness (FIRMCOMP) and Firms' performance/profitability (PROFT).

Variable	Estimated coefficient	Standard error	t-value
Constant term	0.334	0.152	2.191
FIRMCOMP.	0.515	0.040	12.547
ENVFRIENPO	7.611	0.37	2.038

$R = 0.757$ ,  $R^2 = 0.564$ , Adjusted  $R^2 = 0.558$

F – statistic = 93.766

**Source:** Data from field survey, 2011 and SPSS result

## Table 2

Benchmark (tabulated values)

Table f – statistics: fo,01 (1,146)	=	6.63
Table f – statistics: fo,05; (1, 146)	=	3.84
Table t-value: t0.05 (a, b – 1)	=	1.64
Table t-value: t0.01 (, b – 1)	=	1.96

**Source:** Statistical tables.

- (a) Predictors (constant): ENVFIENPO, FIRMCOMP  
 (b) Dependent variable: PROFT. (CORPORATE PERFORMANCE)

## Test of hypothesis

$H_0$  (Null hypothesis): Firms' corporate performance/profitability is not significantly influenced by firms' competitiveness and environmental friendly policy.

$H_1$  (Alternative): Firms' corporate performance/profitability is significantly influenced by firms' competitiveness and environmental friendly policy.

From table 1 and 2, it could be seen that the calculated t-values of both firms' competitiveness and environmental friendly policy (12.847 and 2.038), table 1, are respectively greater than the tabulated t-value, critical value of t at 5% level of significance (1.64), table 2, hence the null hypothesis was rejected and the alternative hypothesis was accepted. This implies that, firms' corporate performance/profitability is significantly influenced by firms' competitiveness and environmental friendly policy.

## Discussion of findings

Multiple regression result of firms' corporate performance/profitable, firms competitiveness and environmental friendliness revealed a positive sign for the constant term which is consistent with the expected economic concept for the constant term.

A high positive sign was found for firms' competitiveness as well as environmental friendliness. The estimated coefficient for firms' competitiveness was high while its t-value was very high. With a very high estimated coefficient environmental friendliness was found to have a significant t-value which is higher than the tabulated value at 5 percent level of significance. The coefficient of determination of 56.4 percent means that 56.4 percent of the variation in firms' corporate performance/profitable can be explained by a combined effect of the explanatory variables put together (i.e. firms' competitiveness and environmental friendliness). The f-statistic of 93.766 is very high and statistically significant, implying also that the model (regression) was statistically significant at 5 percent and confirms the significance of the adjusted coefficient of determination.

### **Conclusion and recommendations**

Based on the empirical analysis and findings of the study, the following conclusions were drawn:

- (1) Environmental friendliness, firms' competitiveness and firms' corporate performance/profitability are found to be positively related. This in effect meant that, when firms are environmentally friendly they enjoy competitive advantage which subsequently results in high corporate performance/profitability.
- (2) When environmentally friendly firms disclose sufficient environmental related information, they enjoy competitive advantage, high liquidity and reduced environmental cost in the long run.

### **Recommendations**

Arising from the above findings, the study recommended that:

- (1) Firms should formulate and implement environmental friendly policies to enhance their competitiveness which would subsequently lead to high corporate performance.
- (2) Firms should adopt uniform reporting and disclosure standards of environmental issues for the purpose of control and measurement of performance.

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