NEXUS OF ENVIRONMENTAL ACCOUNTING AND BUSINESS OBJECTIVES: A STUDY OF CONGLOMERATE COMPANIES IN NIGERIA

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Abstract
The study determined the nexus between environmental accounting and business objectives. The study made use of Ex-Post Facto research design. The population of the study is companies quoted under the conglomerate section of the Nigerian stock Exchange [NSE]. Secondary data was obtained from annual financial reports of the companies. The study findings revealed that there is a relationship between environmental performance disclosure and the survey [PAT] of firms, environmental performance disclosure and the growth [REV] of firms. However, no relationship was found between environmental performance disclosure and profitability [ROA]. Based on this, the study recommends the following among others, that corporations should embed environmental accounting as part of their corporate accounting information system and the development and use of guidelines by policy regulators/makers for standardizing the practice.

Keywords: Environment Performance Disclosure, Business Objectives and Growth
### Introduction

One of the most significant developments in recent decades has been the widespread increase in public concern for the natural environment (Firoz & Ansari, 2010). Notably, the worldwide rise in public awareness about the frightening impact of industrial operations on the environment has put pressure on firms from a variety of sources. This pressure comes from a wide range of stakeholders, including regulatory bodies, employees, customers, investors, non-governmental organizations, and financial institutions, according to Abiola and Ashamu (2012). An organization's performance is today measured not only in terms of its financial outcomes, but also in terms of its contribution to environmental protection and improvement.

In numerous countries throughout the world, many government enactments, laws, and regulations on environmental preservation have been passed, and Nigeria is slowly responding (Enahoro, 2009). Various laws and regulations, such as the Environmental Impact Assessment Act of 1992 and the Department of Petroleum Resources (DPR) Environmental Guidelines and Standards for the Petroleum Industry in Nigeria, were enacted in response to the growing awareness of environmental protection (Bassey, Usang, & Edom, 2013). As a result, accounting grew more concerned with fulfilling new objectives, such as determining and analyzing the potential or actual environmental implications of projects and organizations. Environmental accounting has become a major concern and focus for governments and responsible company executives (Enahoro, 2009). It became one of the most important topics on the agendas of nations and enterprises in the early 1990s, and the causes for this ranged from within and outside the firm, as well as at the global level (Okoye & Ngwakwe, 2004, as in Enahoro, 2009).

Recently, there has been more outcry in the world about climate change, which has been highly detrimental to our existence; ocean levels continue to rise, global warming continues to threaten; yet, natural resources such as the forest, which serves as a natural processor that regulates an appealing atmosphere, are being cut down, and the capacity of trees to remove carbon dioxide from the earth is diminishing (Beredugo & Mefor, 2012). According to Ikporukpo (2000) and Akpomuvie (2011), the three largest spills in Nigeria were the Forcados terminal incident in 1979, which leaked over 570,000 barrels, the Apoi North, 20 disaster in 1980, which spilled 280,000 barrels, and the Idoho spill in 1998, which spilled roughly 40,000 barrels. According to the NNPC (2010) and Ebiziem (2013), a considerable amount (about 63 percent) of Nigerian gas is flared. Gas flared remained at 45.4 percent and 42.7 percent in 2002 and 2003, respectively, while gas consumed was 54.6 percent and 57.3 percent. Various stakeholders, including company consumers, investors, local communities, and government, are putting pressure on firms to improve and publish their environmental performance, according to Abiola and Ashamu (2012). Second, as a result of stakeholder pressure, environmental costs are not matching their earnings and benefits, and environmental considerations are becoming a more essential aspect of corporate decision-making (Abiola & Ashamu, 2012).

Some academics, such as Hossain, Islam, and Andrew (2016), Agyapong, and Nuertey (2017), have argued that spending on the environment has a negative impact on the bottom line of firms. The actions of conglomerate corporations have resulted in changes to the environment and biological makeup, resulting in ecological degradation, emissions, pollution, and landscape devastation. Interference with dangerous substances puts employees' health and safety at risk. As a result, the link between environmental accounting and corporate objectives is determined in this study. The study will, however, be focused on the following specific goals:

1. To determine the relationship between environmental performance disclosure and the survival of Nigerian firms.
To determine the relationship between environmental performance disclosure and the growth of Nigerian firms.

To determine the relationship between environmental performance disclosure and the profit of Nigerian firms.

Review of Related Literature

Environmental Accounting

Environmental accounting is defined as "the identification, measurement, and allocation of environmental costs, the integration of these environmental costs into business decisions, and the subsequent communication of the information to a company's stakeholders," according to the Management Accounting Committee (MAC) of the Institute of Management Accountants (IMA). It is defined as "the collection, analysis, and application of financial and non-financial data in order to improve corporate, environmental, and economic performance and achieve a long-term business strategy" (Bennett & James, 1998).

According to the Statement on Management Accounting by the Management Accounting Committee (MAC) of the Institute of Management Accountants (IMA) organizations use environmental accounting for several reasons, and include the following:

- To help managers make decisions that will reduce or eliminate their environmental costs;
- To better track environmental costs that may have been previously obscured in overhead accounts or otherwise overlooked;
- To better understand the environmental costs and performance of processes and products for more accurate costing and pricing of products:
- To broaden and improve the investment analysis and appraisal process to include potential environmental impacts; and
- To support the development and operation of an overall environmental management system.

It is frequently asserted that strong environmental and commercial performance are inextricably linked (Jacobs, Singhal & Subramanian, 2010). Organizations, according to proponents of social responsibility, have a wide variety of responsibilities that go beyond profitably producing goods and services (Campbell & Slack, 2011; Kim, Li & Li, 2014). Businesses should participate actively and responsively in the community and in the greater environment as members of society. Others argue that being socially responsible has long-term benefits for businesses (Clarkson, Overell & Chepple, 2011; Okoye, Oraka & Ezejiofor, 2013).

During pre-colonial and colonial times, various environmental issues threatened Nigeria's. Many environmental repercussions have resulted from oil activities in Nigeria from the commencement of oil exploration and exploitation, but they have not been handled seriously because oil is Nigeria's main source of economic growth (Musa 2011). In Bendel State, certain hazardous compounds were discovered at a location known as "Koko" (now divided into two states; Edo and Delta states). The discovery of 4,000 tons of dangerous industrial waste in hay dumped illegally in the community drew widespread media coverage. This occurrence, together with the attention given to the World Commission on Environment and Development's report "Our Common Future" in 1987, prompted Nigeria's then-military administration to establish FEPA.

Nigeria was prompted to sign the Basel Convention as a result of the Koko incident. In Nigeria, the Koko incident sparked the development of environmental policy and institutions (Salau, 1997). Nigeria's first environmental policy document was the National Policy on Environment (NPE). It was created with the objective of achieving Nigeria's targeted
environmental management goals in a more legally enforceable and professional manner. Nigeria's government environmental protection agency launched it in 1989. In 1999, during the Nigerian constitution review, a revised version of the National Policy on Environment was released. The National Policy on Environment placed a strong emphasis on sustainable development, which is defined as the combination of economic operations with environmental betterment in order to benefit citizens on a socio-cultural level. The policy goals that are conspicuously mentioned in the document propose sustainable development; integration of economic activities with environmental improvement to achieve socio-cultural benefit for the citizens.

**Empirical Review**

The impact of environmental expenses on the performance of Nigerian oil and gas businesses was investigated by Oranefo (2021). Data was taken from eleven (11) publicly traded oil and gas firms' financial statements for a period of eleven (12) years, from 2008 to 2019. The hypothesis was investigated using Ordinary Least Square, which demonstrated that the Waste Management Cost and Community Development Cost have a substantial positive effect on Tobin's Q of Nigerian Oil and Gas Companies at a 5% level of significance. Okoye and Ezejiofor (2013) investigated the role of sustainability environmental accounting in improving company performance and growth. The Pearson Product Movement Correlation Co-efficient was used to examine and test two hypotheses. As a result of this, the study discovered that sustainable environmental accounting has a considerable impact on organizational productivity and growth. The impact of environmental expenses on firm performance was investigated by Okafor (2018). Statistical Package for Social Sciences was used to do regression analysis (SPSS). The statistical research revealed that higher environmental performance has a favorable impact on an organization's business value. From 2007 to 2017, Nwaiwu and Oluka (2018) investigated the impact of environmental cost disclosure on financial performance measures of publicly traded oil and gas firms in Nigeria. Time series data were acquired from the Central Bank of Nigeria's annual financial reporting and economic review; Pearson product moment coefficient of correlation and multiple linear regression analysis were performed using SPSS version 22. The econometric results revealed adequate disclosure on environmental cost, compliance to corporate environmental regulations have positive significant effect on financial performance measures.

The impact of sustainability cost accounting on the financial performance of Nigerian telecommunication companies was investigated by Udeh and Ezejiofor (2018). Ex post facto research design was used in this study. With the help of SPSS Version 20.0, regression analysis was utilized to test the data. Sustainability cost accounting, according to the report, has had a major impact on Nigerian telecommunication enterprises' return on assets. Another finding is that sustainability cost accounting has had a considerable impact on Nigerian telecommunications operators' return on equity. Iheduru and Chukwuma (2019) investigated the impact of environmental and social costs on the performance of Nigerian manufacturing firms. The study's data came from the annual reports and accounts of fourteen (14) manufacturing enterprises in Nigeria that were chosen at random. Multiple regression models were used to assess the data. Environmental and social costs have a strong negative association with Return on Capital Employed (ROCE) and Earnings per Share (EPS) and a significant positive link with Net Profit Margin (NPM) and Dividend per Share, according to the study (DPS). The effect of sustainability accounting measures on the performance of corporate organizations in Nigeria was studied by Ezejiofor, John-Akamelu, and Chigbo (2016). Time series data and an ex post facto study design were used. The study's data came from the company's annual reports and accounts in Nigeria. Regression Analysis was used to test the data, which was done with the help of SPSS Version 20.0. The study discovered that
environmental costs do not have a favorable influence on corporate revenue in Nigeria, but they do have a positive impact on profit generation.

**Methodology**

The research design adopted in this study is the ex-post facto research design. The main source of data relied upon in this study is secondary data. The secondary data – Environmental Disclosure Index, Firm Survival (Profit after Tax), Growth (Revenue) and Profitability (Return on Assets) were obtained from the Nigerian Stock Exchange Fact Book and Annual Reports and Accounts of the firms.

The population of the study refers to the totality of all the elements or variables under study from which the researcher draws his sample (Uyah, 2015). The study population comprised all the firms quoted in the Conglomerates section of the Nigerian Stock Exchange, the companies are as follows:

1. A.G. Leventis Nigeria Plc
2. Chellarams Plc
3. John Holt Plc
4. Scoa Plc
5. Transnational Corporation Plc
6. Uacn

**Model Specification**

\[ \text{PAT} = F[\text{EDI}_t, \text{FS}_t] \] ………………………………… 1

\[ \text{REV} = F[\text{EDI}_t, \text{FS}_t] \] ………………………………… 2

\[ \text{ROA} = F[\text{EDI}_t, \text{FS}_t] \] ………………………………… 3

**Analysis of Data**

**Table 1: Descriptive Statistics**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Disclosure Index</td>
<td>21</td>
<td>2.00</td>
<td>18.00</td>
<td>10.333</td>
<td>4.90238</td>
</tr>
<tr>
<td>Profit after Tax</td>
<td>21</td>
<td>-1565</td>
<td>9948988</td>
<td>1994005.90</td>
<td>2990239.135</td>
</tr>
<tr>
<td>REVENUE</td>
<td>21</td>
<td>2764</td>
<td>78714437</td>
<td>20511169.76</td>
<td>23061845.421</td>
</tr>
<tr>
<td>RETURN ON ASSETS</td>
<td>20</td>
<td>.01</td>
<td>.09</td>
<td>0.341</td>
<td>0.02442</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: SPSS Ver. 22

**Test of Hypotheses**

**Hypothesis One:**

\[ H_0: \text{There is no relationship between environmental performance disclosure and the survival of Nigerian firms} \]

**Table 2: Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error Of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.653</td>
<td>.427</td>
<td>363</td>
<td>2386122.659</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Firm Size, Environmental Disclosure Index

Source: SPSS Ver. 22

**Table 3: ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>7634613544394.530</td>
<td>2</td>
<td>38173068772197.266</td>
<td>6.705</td>
</tr>
<tr>
<td>Residual</td>
<td>102484464173349.280</td>
<td>18</td>
<td>5693581342963.849</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>178830601717743.800</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Profit after Tax
b. Predictors: (Constant), Firm Size, Environmental Disclosure Index

Source: SPSS Ver. 22
From the Model Summary Table, \( R^2 \) which measures the overall goodness of fit of the regression equation recorded a value of .427; this shows that the independent variables in the model explain 42.7% variation in the dependent variable. In addition the p value was less than .05, F-6.705; we reject the null hypothesis and accept the alternate, thus ‘there is a relationship between environmental performance disclosure and the survival of Nigerian firms’.

**Hypothesis Two:**

\( H_0: \) There is no relationship between environmental performance disclosure and the growth of Nigerian firms

**Hypothesis Three:**

\( H_0: \) There is no relationship between environmental performance disclosure and the profitability of Nigerian firms

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**Table 4: Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>-4932188.406</td>
<td>2584476.954</td>
<td>-1.908</td>
<td>.072</td>
</tr>
<tr>
<td>Environmental Disclosure Index</td>
<td>255141.430</td>
<td>137205.287</td>
<td>1.860</td>
<td>.079</td>
</tr>
<tr>
<td>Firm Size</td>
<td>628530.700</td>
<td>458792.936</td>
<td>.418</td>
<td></td>
</tr>
</tbody>
</table>

Table 5: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>RSquare</th>
<th>Adjusted R Square</th>
<th>Std. Error Of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.637*</td>
<td>.405</td>
<td>.339</td>
<td>18747867.908</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Firm Size, Environmental Disclosure Index

Source: SPSS Ver. 22

**Table 6: ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>4310288.364</td>
<td>12849.000</td>
<td>2</td>
<td>2155144182064124.000</td>
<td>6.132</td>
</tr>
<tr>
<td>Residual</td>
<td>63266985919923437.000</td>
<td>18</td>
<td>351482551106859.600</td>
<td>6.132</td>
<td>.009*</td>
</tr>
<tr>
<td>Total</td>
<td>10636974284051720.000</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: REVENUE

b. Predictors: (Constant), Firm Size, Environmental Disclosure Index

Source: SPSS Ver. 22

**Table 7: Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>-42590277.303</td>
<td>20306346.101</td>
<td>-2.097</td>
<td>.050</td>
</tr>
<tr>
<td>Environmental Disclosure Index</td>
<td>907719.546</td>
<td>.418</td>
<td>.842</td>
<td>.411</td>
</tr>
<tr>
<td>Firm Size</td>
<td>7871288.312</td>
<td>3604755.746</td>
<td>.500</td>
<td>2.148</td>
</tr>
</tbody>
</table>

a. Dependent Variable: REVENUE

Source: SPSS Ver. 22

From the Model Summary Table, \( R^2 \) which measures the overall goodness of fit of the regression equation recorded a value of .405; this shows that the independent variables in the model explain 40.5% variation in the dependent variable. In addition the p value was less than .05, F-6.132; we reject the null hypothesis and accept the alternate, thus ‘there is a relationship between environmental performance disclosure and the growth of Nigerian firms’.

**Hypothesis Three:**

\( H_0: \) There is no relationship between environmental performance disclosure and the profitability of Nigerian firms.
Table 8: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>RSquare</th>
<th>Adjusted R Square</th>
<th>Std. Error Of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.470a</td>
<td>.221</td>
<td>.129</td>
<td>.02279</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Firm Size, Environmental Disclosure Index

Source: SPSS Ver. 22

Table 9: ANOVAa

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Reg</td>
<td>.003</td>
<td>2</td>
<td>.001</td>
<td>2.409</td>
<td>.120a</td>
</tr>
<tr>
<td>1 Res</td>
<td>.009</td>
<td>17</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.011</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: RETURN ON ASSET
b. Predictors: (Constant), Firm Size, Environmental Disclosure Index
Source: SPSS Ver. 22

Table 10: Coefficientsa

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>.019</td>
<td>.028</td>
<td>.520</td>
<td>1.988</td>
</tr>
<tr>
<td>Environmental Disclosure Index</td>
<td>.003</td>
<td>.001</td>
<td>.308</td>
<td>1.370</td>
</tr>
<tr>
<td>Firm Size</td>
<td>628530.700</td>
<td>458792.936</td>
<td>.308</td>
<td>1.370</td>
</tr>
</tbody>
</table>

a. Dependent Variable: RETURN ON ASSETS
Source: SPSS Ver. 22

From the Model Summary Table, R² which measures the overall goodness of fit of the regression equation recorded a value of .405; this shows that the independent variables in the model explain 22.1% variation in the dependent variable. In addition the p value was greater than .05, F=2.409; we accept the null hypothesis and reject the alternate, thus ‘there is no relationship between environmental performance disclosure and the profitability of Nigerian firms’.

Conclusion and Recommendations

Conclusion
The purpose of this research was to see if there was a link between environmental accounting and corporate goals. Environmental accounting is concerned with the collection, analysis, and application of financial and non-financial data in order to improve a company’s financial, environmental, and economic performance (Bennett & James, 1998). Corporations are increasingly being pressured to be environmentally friendly by implementing rules that protect the environment. This pressure comes from a wide range of stakeholders, according to Abiola and Ashamu (2012), including regulatory bodies, employees, customers, investors, non-governmental organizations, and financial institutions.

As a result, corporations are compelled to implement systems for measuring and tracking their environmental performance, as well as disclosing this information to stakeholders and the general public. While studies have shown that the primary business objectives are survival, growth, and profitability, this study aims to demonstrate the nature of the relationship between environmental accounting and business objectives.

Recommendations
The following suggestions are made for businesses, accountants, and policymakers:
Corporations: Environmental accounting is recommended to be included into corporate accounting systems. This method would facilitate the development of sustainability reports
for stakeholder involvement and lessen external pressure. Corporations are also urged to hire environmental experts.

Accountants are being urged to come up with ways to provide traditional with the necessary knowledge to fully grasp the benefits of environmental accounting in organizations. Decision-makers: Accounting regulatory bodies are urged to adopt guidelines for calculating, quantifying, and reporting business environmental consequences as soon as possible. Furthermore, regulatory agencies' activities would foster corporate sustainability consciousness.
References


