ENVIRONMENTAL ACCOUNTING DISCLOSURE AND ORGANIZATIONAL PERFORMANCE: LESSON FROM FOOD AND BEVERAGE COMPANIES IN NIGERIA

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Abstract
This study examined the influence of environmental accounting disclosure on the performance of food and beverages companies. Purposive sampling technique was sued to select 5 staff members each from accounting unit of the 18 selected food and beverage companies totaling 90 participants as a sample size for the study. A structured questionnaire was employed to collect data and analysis was performed with the aid of mean and least square method of estimation. The results revealed that environmental accounting disclosure has positive but insignificant influence on organizational performance. It was also revealed that most of the companies always financially accounted for energy consumption, while land pollution, air pollution, and recycling are neglected. Moreover, it was confirmed that many companies claimed that they disclose environmental information when there is good news, via annual financial report. The study concluded that environmental accounting disclosure is a veritable tool for organizational performance. Consequently, the study recommended that management of food and beverages companies in Nigeria should sustain and enhance environmental accounting disclosure since it has a predictive ability to forecast organizational performance.

Keywords: Environmental Accounting, Performance, Food and Beverage, Pollution, Information
Introduction
The contribution of manufacturing companies to sustainable economic growth and development in both advanced and emerging economies has been acknowledged by scholars, industrialists, and practitioners. Prior studies affirm that manufacturing sector acts as a catalyst that accelerates the pace of structural transformation and diversification of economic, enable a country to fully utilize its factor endowment and to depend less on foreign supply of finished goods or raw materials for its economic growth, development, and sustainability (Folorunso & Sajuyigbe, 2018). According to the National Bureau of Statistics (NBS) (2018), the Nigerian manufacturing sector is dominated by the production of food, beverages, and tobacco, with sugar and bread products generating the greatest value of output. To encourage more output in these and other sectors, the government has been making it cheaper for consumers to purchase locally manufactured goods by making the smuggled foreign alternatives prohibitively expensive or totally unavailable through prohibitions. Most recently, the Central Bank of Nigeria (CBN) announced plans to facilitate the issuance of single-digit interest rate loans to firms operating in the manufacturing sector. Port reforms and other ease of doing business initiatives by the government are also helping to make the manufacture of goods easier in the country.

In spite of these palliative measures, the sector is still facing challenges of climate change and global warming calls for new more sustainable patterns of production, innovation, and energy use. Specifically, the Foods and Beverages industry has come under severe criticism from various consumer groups, non-government organizations and government regulatory authorities concerning health effects, environmental issues such as water usage and recycling, questionable marketing practices, obesity, and alcohol abuse (Pandey, 2014). Paltry exposure of environmental accounting information has been a significant worry to investors, government and stakeholders. At present, no accounting standard has been given for environmental reporting. Research uncovers that various organizations have environmental revealing rules, while these rules are just voluntary in nature and not compulsory (Umores, Akpan, and Okfor, 2018; Amaechi and Nwankwe, 2017). As indicated by Bassey, Effiok, and Okon (2013), the unserious perspectives of several forms not to take the cognizant of environmental accounting disclosure makes performance beneath desire. This is on the grounds that environmental
accounting encourages the structure to record every single environmental expense brought about by the business along these lines, finding a method for lessening the cost (environmental costs) so the business can build benefit. Likewise, environmental accounting encourages to disclose to the outside world their ability to be environmentally friendly.

A plethora of studies has been conducted regarding the impact of environmental accounting disclosure on firms’ performance in developing countries and emerging markets in many parts of the world. For instance, environmental accounting disclosure has been investigated in advanced and emerging economies (Ahmad, Waseer, Hussain, and Ammara, 2018; Joudeh, Almubaideen, & Alroud, 2018; Haitham & Almubaideen, 2018; Lívia, Wesley, Tatiana & Claudimar, 2019). While available studies in Nigeria majorly focused on Oil and Gas sector (Umoren, Akpan & Okafor, 2018; Ndukwe & Onwuchekwa, 2015; Oti & Mbu-Ogar, 2018; Nwaiwu & Oluka, 2018). Academically, there has been limited research on environmental accounting disclosure and performance in the context of emerging economies, and to date, there has been a scarcity of studies on environmental accounting disclosure and performance in the context of the Food and Beverages firms in Nigeria.

Therefore, the current research addresses this current gap in Nigeria, which is a developing country with an emerging capital market. This study justifies the need due to a few studies regarding environmental accounting disclosure and performance in developing countries, and specifically in Nigeria, compared with developed countries.

**Objectives of the Study**

The general objective of this study is to examine the influence of environmental accounting disclosure on organizational performance with specific reference to Foods and Beverages companies in Nigeria. The specific objectives are;

- To examine the level of environmental accounting disclosure in the annual reports of the Food and Beverage companies in Nigeria.
- To examine the extent of environmental accounting disclosure influence organizational performance.

**Research Questions**

- What is the level of environmental accounting disclosure in the annual reports of the Foods and Beverages companies in Nigeria?
ii. To what extent does environmental accounting disclosure influence organizational performance?

**Research Hypothesis**

The following hypotheses shall be formulated in null form for the study;

H01: There is no statistically significant influence of environmental accounting disclosure on organizational performance.

**Literature Review**

**Environmental Accounting**

Environmental accounting has been viewed from different perspectives by scholars, accountants, and environmentalists. For instance, Uwuigbe and Jimoh (2012) see environmental accounting as a process through which companies disclose information relating to environmental performance for evidence that these are accountable for their activities. According to KPMG (2006), environmental accounting provides a framework through which we measure present, past and future environment cost for decision making and public communication. Nwaiwu and Oluka (2018) argue that environmental accounting can more accurately identify true costs by clarifying the environmental impacts caused by material acquisition and processing, manufacturing, sales, distribution, use, maintenance, and disposal. In the same vein, Magara, Aming, and Momanyi (2015) state that environmental accounting involves the identification, measurement, and allocation of environmental costs, and the integration of these costs into business and encompasses the way of communicating such information to the companies’ stakeholders. According to Wei and Peng (2014), environmental accounting is a system that attempts to make the best possible quantitative assessment (in terms of either monetary or physical units) of the costs and benefits to an enterprise due to the environmental preservation activities that it undertakes.

Ahmad, Waseer, Hussain, and Ammara (2018) are of the opinion that environmental accounting is a field that identifies resource use, measures and communicates costs of a company’s or national economic impact on the environment. Costs include costs to clean up contaminated sites, environmental fines, penalties and taxes, purchase of pollution prevention technologies and waste management costs. Sustainability Reporting
Guidelines (2011) also defines environmental accounting as the art or science of measuring, disclosing, and being accountable to internal and external stakeholders for organizational performance towards the goal of sustainable development.

The above environmental accounting definitions can be summarized as the provision of information about environmental performance within and outside of the company to its stakeholders.

**Theoretical Review**

Several theories have been linked to environmental accounting by environmental accounting researchers (Aming & Momanyi, 2015; Nwaiwu & Oluka, 2018; Ahmad, Waseer, Hussain, and Ammara, 2018) such as the theory of legitimacy, stakeholder theory, and institutional theory. These theories elucidate why companies should act responsibly. However, this study anchors on stakeholder theory, because the theory explicitly identifies the stakeholders (employees, customers, suppliers, creditors, governments, communities, industry associations, and the general public) as those groups that have interest in the actions of the organizations (Okafor, 2018). Rakiv, Islam, and Rahman (2016) define an interested party as "any individual or group that may affect or be affected by actions, decisions, policies, practices or goals of the organization. Freeman (1984) reviews stakeholder theory and redefined stakeholders as any individual or group that has an interest in the company because he or she can affect or is affected by the activities of the company.

The study of Makori and Jagongo, A. (2013) revealed that various interested parties are interested in environmental accounting disclosure. They opined that in the case of certain users, the main attention is paid to economic consequences of the influence of the company on the environment; other users are interested primarily in environmental aspects and impacts. Environmental aspects of the company may significantly influence the economic results of the company (not only concerning costs but also concerning revenues) and its financial position. Investors and creditors are primarily interested on the other hand, in environmental risk and extent of liabilities arising from these risks. In the same direction, Ezejiofor, John-Akamelu, and Chigbo (2016) emphasize that the task of environmental accounting is to fill the information needs of all important interested parties.
Some interested parties are primarily concerned with the impacts of the company activities, products, and services on the environment.

**Empirical Review**

Prior studies on the relationship between environmental accounting disclosure and organizational performance have conflicting and inconclusive results. Some affirm that environmental accounting disclosure has significant predictive ability to forecast organizational performance, while some confirm that relationship does not exist between the variables. For example, Ahmad, Waseer, Hussain, and Ammara (2018) investigate the relationship between environmental accounting and non-financial firm’s performance listed in Pakistan stock exchange, Pakistan. The study used regression analysis technique (REM), companies’ annual data from 2006-2016. The empirical analysis showed a significant positive relationship between environmental accounting and firm’s size. While, earning per share and return on capital employed statistically turned out to be insignificant. In another study, Onipe (2018) examines the influence of environmental accounting on firm financial performance in Nigeria. The study used return on assets to proxy firm financial performance while environmental disclosure practices were measured by green reporting index, which is a product of environmental reporting quality and quantity. Descriptive and inferential statistics were used to analyze the data. The correlation results showed that environmental reporting practices and financial performance have positive and significant relationship. The regression results showed that environmental reporting has positive and significant effect on financial performance.

The study of Nwaiwu and Oluka (2018) examine 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. The econometric results reviewed adequate disclosure on environmental cost, compliance to corporate environmental regulations have positive significant effect on financial performance measures. Similarly, Oti and Mbu-Ogar (2018) also examine the impact of environmental and social disclosure on the financial performance of quoted oil and gas companies in Nigeria. Time series data for five years were collected and analyzed using the ordinary least square
regression technique. The results from the statistical analysis revealed that disclosure on employee health and safety and community development do not significantly affect financial performance while disclosure on waste management had a positive and significant effect on firm’s financial performance. Ezeagba, John-Akameli and Umeoduagu (2017) also investigate the relationship of environmental accounting disclosures and financial performance of food and beverage companies in Nigeria. Data for the study were collected through secondary sources and analyzed using Pearson’s correlation statistical technique and multiple regression. The study revealed that there is a significant relationship between environmental accounting disclosures and return on equity of selected companies. It also revealed a negative relationship between environmental accounting disclosures and return on capital employed and net profit margin of selected companies. Malarvizhi and Ranjanni (2016) also conduct research to examine whether there is any significant relationship between Corporate Environmental Disclosure (CED) and firm performance of selected companies listed in the 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 the dependent variable and return on capital employed (ROCE), return on assets (ROA), net profit margin (NPM) and earnings per share (EPS) as the 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. In another study, Magara, Aming, and Momanyi (2015) focus on the impact of environmental accounting on the the financial performance of corporate organizations in Kisii County. The study was carried out at Kisii County, the target population was 144 consisting of accountants and auditors in the 16 corporate organizations. The study adopted a stratified sampling design where a simple random sampling technique was used to identify a sample size of 49 employees drawn from all the 16 corporations. Both qualitative and quantitative data were collected using a questionnaire, and secondary data and descriptive statistics were used to analyze the responses. Findings revealed that the perceived financial performance of the corporate organization, in general, was in good status as perceived by the employees.
Ndukwe and Onwuchekwa (2015) also analyse the determinants of environmental disclosures using oil and gas companies in Nigeria. The cross-sectional research design was utilized in undertaking the study. A sample of 15 companies drawn from the oil and gas sectors of the Nigerian stock exchange for 2008-2013 financial years was used for the study. Secondary data was sourced from the annual reports of the sampled companies while the Binary regression technique was used as the data analysis method. The finding of the study shows that firstly; there is a significant relationship between company size and corporate social responsibility disclosures. Secondly, there is no significant relationship between Profit and corporate social responsibility disclosures. Thirdly, there is no significant relationship between Leverage and corporate social responsibility disclosures. Finally, there is no significant relationship between audit firm type and corporate social responsibility disclosures. 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 analyzed 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.

Methodology
This study employs descriptive and exploratory research design. Purposive sampling technique was sued to select 5 staff members each from accounting unit of the 18 selected food and beverages companies (Cadbury Nigeria Plc., Champion Brewery Plc., Dangote Flour Mills Plc., Dangote Sugar Refinery Plc., Flour Mills Nig. Plc., Golden Guinea Brewery Plc., Guinness Nig Plc., Honeywell Flour Mill Plc., International Breweries Plc, McNichols Plc., Multi-Trex Integrated Foods Plc, N Nig. Flour Mills Plc., Nascon Allied Industries Plc., Nestle Nigeria Plc., Nigerian Breweries Plc., PZ Cussons Nigeria Plc., Unilever Nigeria Plc and Union Dicon Salt Plc) totaling 90 participants as a sample size for the study. The choice of these food and beverages companies is based on the fact that they are quoted in Nigerian Stock Exchange and it is expected to
have the same environmental accounting disclosure policy. A structured questionnaire was employed to collect data and analysis was performed with the aid of mean and least square method of estimation.

**Results and Discussion**

**Table 1: Mean score of environmental information disclosure**

<table>
<thead>
<tr>
<th>Items</th>
<th>Mean</th>
<th>Ranked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Pollution</td>
<td>2.19</td>
<td>9th</td>
</tr>
<tr>
<td>Water Pollution</td>
<td>3.10</td>
<td>5th</td>
</tr>
<tr>
<td>Land Pollution</td>
<td>2.15</td>
<td>10th</td>
</tr>
<tr>
<td>Energy use</td>
<td>4.35</td>
<td>1st</td>
</tr>
<tr>
<td>Recycling</td>
<td>2.30</td>
<td>8th</td>
</tr>
<tr>
<td>Cost of environmental remediation</td>
<td>3.03</td>
<td>6th</td>
</tr>
<tr>
<td>Environmental cost/budgeting</td>
<td>2.50</td>
<td>7th</td>
</tr>
<tr>
<td>Environmental impact assessment</td>
<td>3.12</td>
<td>4th</td>
</tr>
<tr>
<td>Environmental sustainability</td>
<td>3.59</td>
<td>3rd</td>
</tr>
<tr>
<td>Environmental performance</td>
<td>3.91</td>
<td>2nd</td>
</tr>
</tbody>
</table>

Table 1 reveals that majority of the respondents agreed that their companies always financially accounted for energy consumption, environmental performance, environmental sustainability, environmental impact assessment, water consumption and cost of environmental remediation with mean values of 4.35, 3.91, 3.59, 3.12, 3.10, and 3.03 respectively. However, overwhelming of the companies did not financially account for land pollution, air pollution, and recycling. This implies that area of land pollution, air pollution, and recycling has been captured in environmental accounting of the food and beverages companies.

**Table 2: Mean score of Timing of environmental accounting disclosure**

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>At the discretion of its management</td>
<td>3.1</td>
</tr>
<tr>
<td>Upon the request of stakeholders</td>
<td>3.5</td>
</tr>
<tr>
<td>When there is good news</td>
<td>4.58</td>
</tr>
<tr>
<td>When there is bad news</td>
<td>1.9</td>
</tr>
</tbody>
</table>
Table 2 depicts that the majority of the companies claim that they disclose environmental information when there is good news, upon the request of stakeholders and at the discretion of its management. While overwhelming of they did not disclose environmental information when there is bad news. This study is consistent with previous studies that disclosure of positive/good environmental news and no-disclosure of bad/negative environmental news is common among the companies in both advanced and developing nations (Ndukwe & Onwuchekwa, 2015; Ahmad, Waseer, Hussain, and Ammara, 2018).

Table 3: Mean score of medium Used to disclose the environmental accounting information

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>In a press release</td>
<td>3.05</td>
</tr>
<tr>
<td>In the board of director’s report</td>
<td>3.27</td>
</tr>
<tr>
<td>In the annual financial report</td>
<td>4.67</td>
</tr>
<tr>
<td>In the special environmental report</td>
<td>3.61</td>
</tr>
<tr>
<td>In interim environmental reports</td>
<td>2.80</td>
</tr>
</tbody>
</table>

Table 3 indicates that almost all the companies use the annual financial report to disclose environmental accounting information with highest mean value of 4.67 followed by in the special environmental report, in the board of director’s report, in a press release and in interim environmental reports. The study is consistent with the findings of Deegan and Rankin (1996), Ahmad and Sulaiman (2004), and Zamir et al. (2012); that that the environmental accounting information is always reported in the annual financial reports presented in a qualitative form.

Table 4: Regression result of Influence of Environmental Accounting Disclosure on Organizational performance

<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>Regression</td>
<td>3.273</td>
<td>1</td>
<td>3.273</td>
<td>3.896</td>
<td>.052b</td>
</tr>
<tr>
<td>Residual</td>
<td>65.527</td>
<td>88</td>
<td>.840</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>68.800</td>
<td>89</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4 reveals that environmental accounting disclosure (F = (1, 88) = 3.96; β = 0.364; t = 1.974; Pns) has positive influence on the performance of food and beverages companies although insignificant. Deduction to be made from this result is that most of these companies have not been socially responsible. This may be the reason why Pandey (2014) argues that most of the Food and Beverages companies are under severe heavy criticism from various consumer groups, non-government organizations and government regulatory authorities concerning health effects, environmental issues such as water usage and recycling, questionable marketing practices, obesity, and alcohol abuse.

Conclusion and Recommendation
This study examined that influence of environmental accounting disclosure on the performance of food and beverages companies. The study established that most of the companies always financially accounted for energy consumption, while land pollution, air pollution, and recycling are neglected. It was also confirmed that many companies claimed that they disclose environmental information when there is good news, upon the request of stakeholders and at the discretion of its management. Furthermore, study affirmed that almost all the companies used the annual financial report to disclose environmental accounting information. The study concluded that environmental accounting disclosure is a veritable tool for organizational performance. Therefore, the study recommended that the management of food and beverage companies in Nigeria should sustain and enhance environmental
accounting disclosure since it has a predictive ability to forecast organizational performance.

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Oti, P.A and Mbu-Ogar, G. B.(2018). Analysis of Environmental and Social Disclosure and Financial Performance of Selected Quoted Oil and Gas


