

## Moderating Effect of Social and Environmental Accounting on the Performance of Nigeria Breweries Manufacturing Firm

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### Abstract

The study examined the effect of social and environmental costs on the performance of manufacturing firms in Nigeria using Nigeria Breweries as a case study. Variables such as profit after tax, earnings per share, dividend per share, and return on assets in Nigeria breweries was tested against social and environmental cost. With the present regulations on management in Nigeria, manufacturing companies are subjected to comply with the social regulations. By so doing, they incur costs; whether this cost improves or reduces financial performance is the central question that will be explored by this research. The ex post facto research design was adopted. The hypotheses were analyzed using linear regression for all the variables considered, and this gave various results. For the observation of the PAT on SC, we had that the correlation strength was 0.489, which is considered to be positive but weak. And the p-value was greater than 0.05, so we accepted the null hypothesis that stated that there is no significant effect of social cost on profit after tax. This study analyzed the annual report of Nigerian breweries and concluded that Nigerian Brewery should consider the environments where their various companies are and play a major role in enhancing the lives and properties of the indigenes of the locations.

**Keywords:** *Corporate Social Responsibility, Environmental Accounting, Profitability, Social Cost.*

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### INTRODUCTION

The state of the world's environment and the impact of mankind on the ecology of the world at large have led to increased public concern and scrutiny of the operations and performances of companies. Companies are now expected to be able to demonstrate that they are aware of and addressing the impact of their operations on the environment and society in general. The rapid growth in business activities has brought the need for companies to disclose their environmental and social activities in the annual report and accounts under corporate social responsibility. In this regard, businesses are expected to take into cognizance a wide array of social interests and expenditure on environmental activities.

In light of increasing deleterious effects of environmental pollution, great importance is attached not only to the financial aspects (profitability) of companies but also to their social impact. The understanding of Corporate Social Responsibility (CSR) and its wide coverage made it to emphasize on responsibility towards the company's employees, local community, society, and the future generation (Malgorzata and Agnieszka, 2013). Environmental accounting is helpful in presenting in a transparent

manner, the utilization of natural resources of the country, the cost incurred to use them, and the income earned there from. It helps in measuring the contribution made by various companies in fulfilling their social responsibilities (Maheshwari, 2013). With the present regulations on management in Nigeria, manufacturing companies are subjected to comply with the social regulations. By so doing, they incur costs; whether this cost improves or reduces financial performance is the central question that will be explored by this research.

The quest for sustainability and the preservation of existing resources mandates that organizations must develop new ways and attitudes of doing business in terms of social sustainability. Social sustainability has become a pressing issue across the globe. The world population has been over-exploiting the available planetary resources. The increase in global social awareness and the campaign for sustainable economic development is redirecting the attention of business organizations towards environmental conservatism (Acti, Lyndon, and Binglar, 2013; Uzoh, 2022). This social 'cost' assumption has been tested against a wide range of financial measures within the plethora of literature. Recent empirical and analytical research

shows that there is a clear correlation between environmental performance and corporate profitability (Murphy, 2002). Currently, it is widely believed that social responsibility reporting, sustainable development reporting, and environmental-protection reporting constitute an effective and efficient way to understand social performance and social risks, which naturally seek the goodwill of neighbouring communities, employees, stockholders, investors, financial institutions, local government, and citizens (Kai, 2015). Such characteristics, according to the author, need to be communicated to the stakeholders of the company in a social report. The report comes in different areas, such as corporate social responsibility (CSR report), social performance report (SPR), and sustainability report (SR). The reports have quantifiable social disclosures that lead to better social performance and economic performance. Global awareness of stakeholders on corporate environmental performance has already made traditional reporting redundant. Companies run into the risk of loss of faith of their stakeholders, if in the future, environmental performance information is not included in their mainstream reporting (Swift, 2001). It is against this background that the study intends to examine the effect of social cost on the performance of manufacturing firms in Nigeria. One of the most fundamental characteristics of externality is that the associated costs, known as the social cost, should be borne by the agent who causes the externality.

The need for corporate organizations to develop social cost responsiveness and to disclose in annual financial reports environmental information has become of great importance. Corporate neglect and avoidance of social costing leave a gap in financial information reporting. There is no completeness and correctness of a fair view to users of financial information, such as shareholders, environmental regulatory agencies, socialists, and potential financial investors. For example, degradation or other negative impact on society could affect corporate financial statement such as creating actual or contingent liabilities, and may have an adverse impact on asset values. Consequential effect on corporate organizations may result in incurring future capital expenditure and cash flows, which may impinge on the going concern of business organizations.

Also, the limited awareness of social costing principles and methodology has become an important issue to be addressed. If vital social issues and

activities are not disclosed, the financial statement cannot be said to reveal a 'true and fair view of affairs'. It is important too, to note that ethical investors will only invest in ethical companies and therefore, will watch out for these ethically responsible companies. Ethical companies, therefore, have a marketing advantage if they strategically position themselves socially. Companies that comply with ethical standards have an advantage over other companies. Also, the challenge of cost and valuation for damage, depletion, and degradation of society is a critical problem that continues to demand attention. Unfortunately, many social goods, including clean water, wilderness, indigenous cultures, and biodiversity, are not traded on markets, and so alternative means are needed to assess their value. Over the past several decades, economists and others have devoted considerable effort to devising the necessary techniques. Davies and Okorite (2007) opine that where the social activities of organizations are fairly reported in the financial statements, duly audited and attested to, and published by the organization for all to see, some of the problems would be minimized, if not eliminated.

More so, most corporate organizations do not keep proper records of their social cost. Their financial statements do not capture the presence of social and environmental costs. Since the current requirement for reporting on social issues is voluntary, it is observed from most financial statements of corporate organizations that it has engendered disclosures of information that totally exclude social issues. Social disclosures have become critically important to an informed public and financial stakeholders. Also, pertinent is the difficulty of evaluating social remediation for social degradation where social costs do exist.

The main objective of the study is to examine the effect of social cost on the performance of manufacturing firms in Nigeria. The specific objectives of the study are: (1) To examine the effect of social cost on profit after tax of manufacturing firms in Nigerian breweries. (2) To determine the relationship between social cost and earnings per share of manufacturing firms in Nigerian breweries. (3) To ascertain the relationship between social cost and dividend per share of manufacturing firms in Nigerian breweries. (4) To examine the effect of social cost on return on assets of manufacturing firms in Nigerian breweries.

## **LITERATURE REVIEW**

### **Conceptual Framework**

Social cost accounting, social accounting otherwise known as (social accounting and auditing, social and environmental accounting, corporate social responsibility reporting, non-financial reporting or accounting) “is the process of communicating the social and environmental effects of organizations’ economic actions to particular interest group within the society and to society at large” (Gray, Owen, & Mannnders, 1987; Muthohirin, Riska & Fahayu, 2024). They further emphasized that the social accounting entails corporate accountability. In the words of Crowther (2000), social accounting is an “approach to reporting a firm’s activities which stresses the need for the identification of socially relevant behaviour, the determination of those to whom the company is accountable for its social performance and the development of appropriate measures and reporting techniques.

On the other hand, environmental accounting, according to Gray, Owen, and Adams (1996), is a subset of social accounting that focuses on the cost structure and environmental performance of a company. It principally describes the preparation, presentation, and communication of information related to an organization’s interaction with the natural environment. They further stated that environmental accounting is most commonly undertaken as voluntary self-reporting by companies, third-party reports by government agencies, NGOs, and other bodies put pressure for environmental accountability. Accounting for impacts on the environment may occur within a company’s financial statements, relating to liabilities, commitments, and contingencies for the remediation of contaminated lands or other financial concerns arising from pollution.

More specifically, the high expected values reflect a right-skewed distribution of damages. It is well known that skewed distributions and tail events can influence the expected value of the benefits of mitigating climate change (e.g., Gollier 2008; Weitzman 2011, 2014). Under constant discounting, such tail events are very rich futures with associated large amounts of consumption at risk from climate change. Yet constant discounting treats each dollar of cost to those wealthy future generations the same as a dollar of cost to a relatively poor future. Hence, with constant discounting, the effects on the future rich

inappropriately dominate the expected value of the SCC, leading to a strong upward bias in the SCC estimate. This problem is recognized in the finance literature as the result of ignoring the risk properties of an investment—namely, the correlation of an uncertain payoff with the stochastic discount rate. Stochastic growth discounting addresses this by discounting the high-growth, high-damage states at a higher rate. By discounting high-growth states more, stochastic discounting stabilizes the mean and variance of the SCC, as documented in (Newell, William, and Brian, 2021).

### **Benefits of Implementing Social Accounting Practices by Companies**

Social accounting for the purpose of management control is designed to support. and facilitate the achievement of an organization’s own objectives. In the words of Gray (2000), organizations are seen to benefit from implementing social accounting practices in a number of ways, for example: Increased information for decision making, more accurate product or service costing, Enhanced image management and public relations, Identification of market development opportunities, and maintaining legitimacy.

The society is also seen to profit from the implementation of a social and environmental accounting in many ways, thus: Honouring stakeholders’ rights of information, balancing corporate power with corporate responsibility, and increasing transparency of corporate activity. Identifying social and environmental costs of economic success (Gray, Owen, and Adams, 1996). In contributing to their quota, Adediran and Alade (2013) pointed out a few benefits of environmental costs accounting to entities as follows: It can be significantly reduced or eliminated as a result of a business decision, environmental costs can be offset by generating revenues through the sale of waste, by-products, or transferable pollution allowances, or licensing of clean technologies.

Better management of environmental costs can result in improved environmental performance and significant benefits to human health as well as business success. Understanding the environmental costs and performance of processes and products can promote more accurate costing and pricing of products and can aid companies in the design of more environmentally preferable processes, products, and services for the future. From the foregoing, analyzing it implies that the

environmental and social cost accounting ensures accountability and transparency of companies' activities, which affect different stakeholders.

### **Environmental Disclosure**

Many companies in Nigeria attempt to disclose the measures they take in environmental protection for instance, air emission information, water discharge information, and solid waste disposal information. Environmental policies: Conservation of natural resources, Recycling plant of waste products, Installation of effluent treatment plant, Anti-litter and conservation campaign; Land reclamation and forestation programs. Environmental accounting is an important issue in present-day financial reporting. It has become necessary for corporations to formulate methods of promoting environmental causes for the present and the future (Oladejo et al 2019). Green/environmental accounting helps to promote a sustainable future for business, which brings green public procurement and green research and development into the big picture (Rout, 2010). Poor environmental attitude may have an adverse impact on the business finances. It could attract fine if regulation is in place, degradation of land, loss of sales, consumer boycotts, as in advanced countries, damage to corporate image, etc.

### **Environmental Costs**

Environmental costs are costs that the organization incurs to prevent, monitor, and report environmental impacts (KASNEB, 2014). US EPA (1995) defines five tiers of environmental costs, namely; convectional, hidden, contingent, image, and relationship and societal. These costs are broadly divided into two: private costs and societal costs. Private costs are borne by the firm, whereas societal costs are borne by society. Environmental costs are generally defined narrowly. Environmental costs are those costs incurred in compliance with, or prevention of breach of, environmental laws, regulations, and company policy. However, the true environmental costs to a firm can be far broader, including costs of resources, both those directly related to production and those involved in general business operations; waste treatment and disposal costs; the costs of poor environmental reputation; and the cost of paying an environmental risk premium.

Branco (2007) categorizes environmental costs into two major dimensions. Those that directly impact a company's bottom-line; they referred to as private

costs. The other encompasses the cost to individuals, society, and the environment for which a company is not accountable, which they call societal cost. They can be classified as: Conventional Costs, Potentially Hidden Costs, Contingent Costs, and Image and Relationship Costs.

Environmental costs can be analyzed as relating to prevention, appraisal, internal failure, and external failure activities (KASNEB, 2014). Prevention activities are activities that solve environmental problems before they occur or convert problems into opportunities. Cost of prevention activities are investment cost as they minimize future cost outlays and provide long-lasting benefits. Appraisal activities are activities that monitor the levels of environmental impact, for instance, auditing supplier performance, inspecting processes and products, and measuring damage. Internal failure activities are activities that correct mishaps/ breakdowns noticed in appraisal activities. These costs include the cost of cleaning the plant after spillage, occupational health and safety claims of employees. External failure activities are activities that occur when resolution and remediation efforts fall outside the organization's management. They include costs of cleaning polluted sites, fines and penalties for environmental damage, and reduction of profits as a result of reputational injury (KASNEB, 2014). Environmental disclosure may result in long-term sustainability of the firm as there is decreased wastage and improved efficiency, hence resulting in low costs. Lethmate & Doost (2000), Labarn (2011), and Iheduru (2018) listed the different categories of environmental cost.

### **Societal Cost**

These are costs that an organization imposes on others for which they may not be held legally responsible and which cannot be compensated for in the legal system (KASNEB, 2014). For instance, damage caused to a river because of polluted wastewater discharge, or to ecosystems from solid waste disposal, or to asthmatics because of air pollutant emissions are all examples of external costs for which an industry often does not compensate (Uwaloma, 2011).

### **Corporate Environmental Ethics**

Many tasks of industry, such as procuring raw materials, manufacturing and marketing, and disposing of wastes, are in large part responsible for pollution. This is not because any industry or company has

adopted pollution as a corporate policy. When raw materials are processed, some waste is inevitable. It is usually not possible to completely control the dispersal of all byproducts of a manufacturing process. The cost of controlling waste can be very important in determining a company's profit margins.

Protecting the environment involves meeting the needs of both current and future generations. (Freedman & Reed, 2003), examines the various approaches to environmental policy to get businesses to improve their environmental performances, and how business itself influences that policy. These approaches, according to him, are: the free market approach and self-regulation; the reformist approach and financial incentives; and the interventionist approach and legislation.

#### **Why Environmental Accounting?**

There are several reasons why businesses may consider adopting environmental accounting as part of their accounting system. As stated by Hackson and Milne (1996), Mainar-Causapé, Ferrari, and McDonald (2018), these include:

1. Possible significant reduction or elimination of environmental costs.
2. Environmental costs and benefits may be overlooked or hidden in overhead accounts.
3. Improved environmental performance, which may have a positive impact on human health and business success.
4. May result in more accurate costing or pricing of products and more environmentally desirable processes.
5. Possible competitive advantages, as customers may prefer environmentally friendly products and services.

#### **The Need for Environmental Reporting**

There has been a growing recognition of the importance of transparency for economic growth and social development. Also, there have been calls from civil society and a broader range of stakeholders for greater transparency and accountability to aid decision-making (Gilani et al, 2011). In Nigeria, an initiative encouraging transparency, which can help strengthen reporting in the extractive industry sectors, is the Nigeria Extractive Industries Transparency Initiative (NEITI) launched in February, 2004. While substantial efforts have already been undertaken in the reporting area, continued action is necessary to strengthen transparency. It is essential that environmental

accounting reporting should be given a pride of place, as it is relevant to Risk.

Management, Government, Legal Needs, Accounting Requirements, Competition, Communities, Certification Needs, Investors' interest, Contractors, and Environmental Groups. If environmental accounting is the enabling vehicle to form a common basis for the users of the environment, both internal and external, the effective vehicle is environmental reporting (Gotherstorm, 2012).

#### **Applicability of Environmental Accounting**

Towards the attainment of the corporate goal of wealth maximization of a firm, environmental accounting should be applied in its operations - cost allocation, capital budgeting, and process/product design. Numerous observers have recognized the complexity, consequences, and necessity of rationalizing accounting systems to ensure proper allocation of costs to the sources within the firms that are responsible for such costs (Miler, 1994; World Bank, 2017).

Through the application of environmental accounting, management in particular, and other concerned stakeholders can identify environmental costs. Hence, they are motivated to find ways of reducing or avoiding those costs while at the same time improving environmental quality. This is the conceptual cornerstone of Activity-Based Costing (Ali and Rizwan, 2013).

It may be easier to include environmental cost in capital budgeting if existing processes; system and products are already being assigned environmental costs in cost accounting systems. Integrating environmental accounting into capital budgeting involves:

1. Quantifying environmental costs;
2. Allocating and projecting environmental costs and benefits;
3. Using appropriate financial indicators;
4. Setting a reasonable time horizon that captures environmental benefits.

The design of a process or product would certainly have a significant impact on environmental costs and performance. Hence, many companies are adopting Life cycle design programmes to take environmental considerations into account at an early stage (Holand & Foo, 2012).



### **Main Environmental Laws in Nigeria**

According to Solomon and Lewis (2002), the main environmental laws in Nigeria include:

The National Effluent Limitation Regulation S.1.8 of 1991, which makes it mandatory for industrial facilities to install antipollution equipment.

1. The Pollution Abatement in Industries and Facilities Generating Wastes-Regulations S.1.9, of 1999, which among other things imposes restrictions on the release of toxic substances and stipulates requirements for monitoring of pollution, to ensure that permissible limits are not exceeded, as well as spelling out the generator's liability.
2. The Solid and Hazardous Waste Management Regulation S.1.15 of 1991, which regulates the collection, treatment, and disposal of solid and hazardous waste from municipal and industrial sources. The regulation also provides a list of over 1000 hazardous chemicals to be controlled by FEPA by toxicity category.
3. The Harmful Wastes (Criminal Provisions) Act 42 of 1988, which sentences individuals who trade, dispose, or transport toxic waste in Nigeria or its Exclusive Economic Zone to life imprisonment. The Koko toxic dump in Delta State in 1988 gave rise to this Act.
4. The Environmental Impact Assessment (EIA) Act 86 of 1992, which provides the procedure for conducting an EIA of any major development. The sectoral guidelines for the EIA Act have now being developed for oil and gas, mining, agricultural, manufacturing, and infrastructure sectors.
5. The Sea Fisheries and Inland Fisheries Act, 1992, which controls access to fisheries resources. The Act includes wide provisions for the regulation of catch species, sizes, and fishing zones. The regulation sets minimum net size for both finfish and shrimp.
6. Federal Environmental Protection Agency (FEPA) Act, No. 58 of 1988. The Act specifies the establishment, membership, functions, and powers of the Federal Environmental Protection Agency and National Environmental Standards.

In 2007, the National Environmental Standards and Regulations Enforcement Agency (NESREA) Act repealed the FEPA Act. NESREA has amongst other functions the power to enforce compliance with laws, guidelines, policies, and standards on environmental matters. An improved environmental regulation

resulting from appropriate political institutions is likely to improve environmental sustainability. The worries are how effective has the Agency been in the enforcement of compliance, and also of note is the lack of jurisdiction over environmental matters emanating from the Oil and Gas sector.

### **Theoretical Framework**

We might reasonably assume that it is this thinking that produces the sort of voluntary social and environmental disclosure we currently see in the annual reports of organizations. Despite its serious limitations, stakeholder theory does help. It defines the influencing/influenced groups and explicitly defines what accountability the organization itself is willing to recognize and discharge. To deny the organization any role in the definition of social account seems inappropriate and largely indefensible (Francis, 2010).

As indicated above, he presents stakeholder power as the first dimension of the model. He explains this by indicating that the firm will be responsive to the intensity of stakeholder demands. The more critical the stakeholder resources are to the continued viability and success of the corporation, the greater the expectation that the stakeholder demands will be met.

The second dimension is the firm's strategic posture toward corporate social responsibility activities. Strategic posture describes the mode of response of a company's key decision makers concerning social demands. A company whose management tries to influence its organization's status with key stakeholders through social responsibility activities possesses an active posture.

The third dimension concerns the company's past and current economic performance. The importance placed on meeting social responsibility goals may be secondary to meeting the economic demands that directly impact the company's continued viability. Economic performance directly affects the financial capability to institute social responsibility programs. Therefore, given certain levels of stakeholder power and strategic posture, the better the economic performance of a company, the greater its social responsibility and disclosures.

### **Accountability Theory**

Accountability theory is concerned with the relationship between groups, individuals, organizations, and the rights to information that such relationships bring about. Accountability is an act of being responsible or answerable for one's own

decisions or actions with the expectation of explaining and justifying them when asked to do so. Simply stated, accountability is the duty to provide an account of the actions for which one is held responsible (Gray *et al.*, 2011). The nature of the relationships and the attendant rights to information are contextually determined by the society in which the relationship occurs. It is absolutely true that some sort of relationship will exist between an organization and each of its stakeholders. Part of this relationship may be economic in nature, and the terms determined by the parties as reflecting their relative powers in the relationship. The information flowing through the relationship will be determined by the power of the parties to demand it (a power which, where it exists, could arise from either the intrinsic abilities and power of the groups concerned or from the legislative processes of the society) and/or the willingness/desire of the organization to provide it (Gray *et al.*, 2017).

Society as a whole stands expressing a concern that all such relationships and their attendant information rights should not be left entirely to the parties, and particularly to the organization. The most noticeable manifestation of this societal concern is statute law and standards established by statutory bodies such as environmental protection agency and the Health and Safety at Work Inspectorate (Gray *et al.*, 2017). Additionally, other mechanisms such as voluntary codes of practice will from time to time enter the public domain as an agreed or, at least, negotiated part of the stakeholder relationship to which the organization must be accountable. These empirical, beyond-law determinants of accountability have been referred to as quasi-law. The existing formal laws plus the quasi-laws therefore represent the first and major element in the construction of the organizational obligations and consequently its accountability to society (Stone, 2015).

It is, of course, naive to assume a simple one-to-one mapping of a society's beliefs about the nature of relationships and the attendant information rights and extant law, even with the addition of quasi-law. On the other hand, rights to information must reflect asymmetries of power and essential lags between a society's views and the enactment of law. The rights of information can be argued to comprise both positive (legal) and normative (moral) rights. These moral rights must, in some manner, be added to the positive rights to reflect current views of accountability.

However, the study will be anchored on accountability theory. Accountability theory is concerned with the relationship between groups, individuals, organizations, and the rights to information that such relationships bring about. In this study, the accountability theory will help to keep all the necessary books and records that relate to environmental costs.

### **Empirical Review**

Adediran and Alade (2013) researched the impact of environmental and social Accounting on corporate performance in Nigeria used fourteen (14) randomly selected quoted companies in Nigeria. Data were collected from the annual report and analyzed using Regression Analysis. They discovered that there is a negative relationship between Environmental Accounting and Return on Capital Employed and Earnings per Share, and a significant relationship between Environmental Accounting and Net Profit Margin cum Dividend per Share. Daniel (2013) carried out a similar study on the effect of environmental regulations on the financial performance of manufacturing companies in Tanzania. The study used regression analysis with a sample of five (5) selected manufacturing companies. The findings indicated that Environmental compliance has no significant effect on the financial performance of listed financial companies in Tanzania.

Jerotich (2013) carried out research to establish the relationship between corporate social responsibility and the financial performance of firms in the Manufacturing, Construction, and Allied Sector of the Nairobi Securities. One major finding of the study was that there is a strong relationship between the independent variables (CSR practice, efficiency, and capital intensity) used in the model and the dependent variable (ROA). It can thus be concluded from the findings of the above research that there is a growing interest in researching various issues in social and environmental accounting and reporting. In the absence of any guideline or framework that makes it mandatory to report social issues, it remains dominantly voluntary in nature, and the information that is disclosed is mainly positive in nature. Therefore, the research reviewed gives a further understanding of the topic under study and tries to answer the specific objectives of the study. Odatayo, Adeyemi, and Sajuyigbe (2014) carried out a similar study on the impact of corporate social responsibility on the profitability of Nigerian banks. The study is an

empirical investigation that sampled six(6) banks in Nigeria from 2003-2012 using annual reports and, with the use of simple regression analysis, found that there is a significant relationship between expenditure on social responsibility and profitability of banks in Nigeria. Nabhan (2015) surveyed the social accounting disclosures in published annual financial statements. The population consisted of companies listed at the then Nairobi Stock Exchange (NSE) during the period 1990-1994. The companies were further to be located in the Nairobi area. This gave a sample of 43 companies, which represented about 77 percent of the population. The study relied on both primary and secondary data. Secondary data was obtained from annual financial statements of sample companies over the period 1990 – 1994. The data was then analyzed through data analysis instruments such as the mean, standard deviation, and coefficient of variation. The conclusion reached was that all companies in one way or another engaged in one form of social accounting disclosure.

Oduol (2009) surveyed the social accounting and reporting practices adopted by the mobile phone service providers in Nigeria. The population of the study covered four mobile firms that were operating in Nigeria by the year 2009. The study used both primary and secondary data. Primary data was collected by way of questionnaires. Content analysis method was used in analyzing the data via statistical package for social sciences software. He concluded that all the companies in the mobile phone services industry participated in social responsibility activities and had put in place to systematically channel their contributions to the communities in which they operated. He further observed that what was reported was what would be regarded as good news and that social reporting practices were generally not accounted for separately, but were seen just as an extension of the conventional accounting system. Obusubiri (2009), in a study on CSR and portfolio performance, also found a positive relationship between CSR and portfolio performance. He attributed this relationship to the good corporate image that comes with CSR, making investors prefer such companies, implying that good CSR behavior has a reputational benefit for the practicing firm.

## METHODS

*Research Design:* In this research, an *ex post facto* research design will be adopted. This is defined as a

“systematic empirical enquiry in which the researcher does not have direct control of independent variables because their manifestations have already occurred. This method measures the impact of events after the events have occurred. *Nature and source of data:* This refers to where the information originates. In carrying out this study, the researcher will make use of secondary sources of data. *Secondary sources:* The study will adopt secondary sources of data. The secondary source of data includes textbooks, journals, magazines, internet language.

*Population of the study:* Population of the study refers to the number of people or groups of people or objects that have similarities in one way or more ways that form the subject matter of the research project. The population is made up of the Nigerian breweries, which include 124 manufacturing firms in Nigeria. *Sampling of the study:* According to Kothari and Gard (2014), sampling is defined as the selection of some part of an aggregate or totality based on which a judgment or inference about the aggregate or totality is made in other words it is a process of obtaining information about the entire population by examining only one part of it. *Sample size determination:* The study will adopt judgmental sampling in generating its data. However, Nigeria breweries Plc were selected for the study. The study will also be limited to 10 years, ranging from 2007 to 2016.

*Statistical technique:* In testing the hypotheses, ordinary least squares-based simple regression analysis will be used. *Decision Rule:* Reject the null hypotheses when the p-value of the f-statistic is less than 0.05 and accept the alternative hypothesis, otherwise we accept the null hypothesis. *Research Instruments:* The instrument for data collection is the annual report and accounts of Nigeria Breweries Plc. The annual report will be used to ascertain the values of profit after tax, earnings per share, return on assets, dividend per share, and social and environmental cost of the company.

*Validity of the Instrument:* Validity refers to the ability of a test to measure what it purports to measure. Aczel and Sounderpandian (2006). The data used for the study is extracted from various annual reports of Nigeria Breweries Plc. The instrument is reliable reports on the fact that it was audited by established external auditors and is known. They are therefore approved by the relevant government agencies. The annual report is also established to have been used by different financial analysts and other accredited



researchers. They are therefore assumed to be valid and reliable for the purpose of this study. *Reliability of the Instrument*: A test is considered reliable if we get similar results repeatedly (Azika, 2006). The instrument that will be used by the researcher is reliable on the fact that data that is used will be accurately collected from the Nigeria Breweries Plc Annual Report and other relevant materials.

*Model Specification*: The models for this study are stated as follows;

$$PAT = f(SC) \dots\dots\dots (1)$$

$$PAT = \beta_0 + \beta_1 SC + e \dots\dots\dots (2)$$

Where;

PAT = profit after tax

SC = social cost

$\beta_0$  = Intercept term

$\beta_1$  = Slope coefficient

e = error term

$$EPS = f(SC) \dots\dots\dots (3)$$

$$EPS = \beta_0 + \beta_1 SC + e \dots\dots\dots (4)$$

Where;

EPS = earnings per share

SC = social cost

$\beta_0$  = Intercept term

$\beta_1$  = Slope coefficient

e = error term

$$DPS = f(SC) \dots\dots\dots (5)$$

$$DPS = \beta_0 + \beta_1 SC + e \dots\dots\dots (6)$$

Where;

DPS = dividend per share

SC = social cost

$\beta_0$  = Intercept term

$\beta_1$  = Slope coefficient

e = error term

$$ROA = f(SC) \dots\dots\dots (7)$$

$$ROA = \beta_0 + \beta_1 SC + e \dots\dots\dots (8)$$

#### Output of Linear Regression Analysis for PAT on SC

##### Model Summary

Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate
1	.489 <sup>a</sup>	.239	.144	7408483.223

a. Predictors: (Constant), SC

This R gives as 0.489, which indicates a weak positive correlation. The  $R^2$  value indicates how much of the total variation in the dependent variable (PAT)

Where;

ROA = return on asset

SC = social cost

$\beta_0$  = Intercept term

$\beta_1$  = Slope coefficient

e = error term

## RESULTS AND DISCUSSION

### Presentation of Data

Data is secondary data collected from Nigeria Brewery Financial statement from 2007 to 2016. The data contains values for profit after tax, earnings per share, dividend per share, return on asset and the social cost, respectively. *Analysis and interpretation of data*: The data was analyzed using statistical package for the Social Sciences (SPSS), and the tool used is the linear regression, analyzing the total relationship between the variables being considered to give the required result respectively. The linear regression gives the following output that is defined below:

*Model Summary*: This table shows the R and  $R^2$  values. The R value represents the simple correlation. The  $R^2$  value indicates how much of the total variation in the dependent variable can be explained by the independent variable. *ANOVA*: This ANOVA table indicates reports on how well the regression equation fits the data (i.e., predicts the dependent variable). The significance of the study is given using the P-Value on the table. The hypotheses as stated above in 1.5 is used and the decision rule given in 3.7 above states to reject the null hypotheses when the p-value of the f-statistic is less than 0.05 and accept the alternative hypothesis, otherwise we accept the null hypothesis. *Coefficient*: this table helps us get the regression model that best describes the relationship using the coefficients of the variables given in the table.

can be explained by the independent variable (SC). In this case, 23.9% can be explained, which is small.

ANOVA <sup>b</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.383E14	1	1.383E14	2.519	.151 <sup>a</sup>
	Residual	4.391E14	8	5.489E13		
	Total	5.773E14	9			
a. Predictors: (Constant), SC						
b. Dependent Variable: PAT						

H01: Social cost has no significant effect on the profit after tax of manufacturing firms in Nigeria. This ANOVA table indicates reports on how well the regression equation fits the data (i.e., predicts the dependent variable (PAT)). Since  $p < 0.151$  is greater than 0.05, we accept the null hypothesis and state that Social cost has no significant effect on the profit after tax of Nigeria Brewery for the relevant years.

Coefficients <sup>a</sup>					
		Unstandardized Coefficients		Standardized Coefficients	
Model		B	Std. Error	Beta	t
1	(Constant)	2.952E7	3.268E6		9.034
	SC	.260	.164	.489	1.587
a. Dependent Variable: PAT					

The regression equation is given as  $PAT = 2.952E7 + 0.564 (SC)$

#### Output of Linear Regression Analysis for EPS on SC

Model Summary				
Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate
1	.452 <sup>a</sup>	.204	.105	1.00340

a. Predictors: (Constant), SC

This R gives as 0.452, which indicates a weak positive correlation. The  $R^2$  value indicates how much of the total variation in the dependent variable (EPS) can be explained by the independent variable (SC). In this case, 20.4% can be explained, which is small.

ANOVA <sup>b</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.066	1	2.066	2.052	.190 <sup>a</sup>
	Residual	8.054	8	1.007		
	Total	10.120	9			
a. Predictors: (Constant), SC						
b. Dependent Variable: EPS						

H02: There is no significant relationship between social cost and earnings per share of manufacturing firms in Nigeria. This ANOVA table indicates reports on how well the regression equation fits the data (i.e., predicts the dependent variable (EPS)). Since  $p < 0.190$  is greater than 0.05, we accept the null hypothesis and state that Social cost has no significant effect on earnings per share of Nigeria Brewery in the relevant years.

Coefficients <sup>a</sup>					
		Unstandardized Coefficients		Standardized Coefficients	
Model		B	Std. Error	Beta	t
1	(Constant)	3.901	.443		8.814
	SC	3.182E-8	.000	.452	1.432

a. Dependent Variable: EPS

EPS = 3.901 + 3.1822E-8 (SC).....

#### Output of Linear Regression Analysis for DPS on SC

##### Model Summary

Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate
1	.216 <sup>a</sup>	.047	-.073	1.60264

a. Predictors: (Constant), SC

This R gives as 0.216, which indicates a positively weak correlation. The  $R^2$  value indicates how much of the total variation in the dependent variable (DPS) can be explained by the independent variable (SC). In this case, 0.47% can be explained, which is very small.

ANOVA <sup>b</sup>					
Model		Sum of Squares	df	Mean Square	F
1	Regression	1.005	1	1.005	.391
	Residual	20.548	8	2.568	
	Total	21.553	9		

a. Predictors: (Constant), SC

b. Dependent Variable: DPS

H03: There is no significant relationship between social cost and dividend per share of manufacturing firms in Nigeria. This ANOVA table indicates reports on how well the regression equation fits the data (i.e., predicts the dependent variable (DPS)). Since  $p < 0.549$  is greater than 0.05, we accept the null hypothesis and state that Social cost has no significant effect on dividend per share of the Nigeria brewery in the relevant years.

Coefficients <sup>a</sup>					
		Unstandardized Coefficients		Standardized Coefficients	
Model		B	Std. Error	Beta	t
1	(Constant)	3.100	.707		4.385
	SC	2.219E-8	.000	.216	.626

a. Dependent Variable: DPS

DPS = 3.100 + 2.219E-8 (SC) .....

#### Output of Linear Regression Analysis for ROA on SC

##### Model Summary

Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate
1	.394 <sup>a</sup>	.155	.050	.064643166775

a. Predictors: (Constant), SC

R tells us that the correlation between ROA and SC is given as 0.394, which implies a weak correlation, and the  $R^2$  value indicates how much of the total variation in the dependent variable (ROA) can be explained by the independent variable (SC). In this case, 15.5% can be explained, which is small.

ANOVA <sup>b</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.006	1	.006	1.473	.260 <sup>a</sup>
	Residual	.033	8	.004		
	Total	.040	9			

a. Predictors: (Constant), SC

b. Dependent Variable: ROA

H04: Social cost has no significant effect on asset of manufacturing firms in Nigeria. This ANOVA table indicates reports how well the regression equation fits the data (i.e., predicts the dependent variable (ROA).

Since  $p < 0.260$  is greater than 0.05, we accept the null hypothesis and state that Social cost has no significant effect on returns on assets in the Nigeria brewery for the relevant years.

Coefficients <sup>a</sup>						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.201	.029		7.052	.000
	SC	-1.737E-9	.000	-.394	-1.213	.260

a. Dependent Variable: ROA

ROA = 0.201 – 1.737E-9 (SC) .....

This section is the summary of what was discovered in the analysis, and the objective sought to find out the relationship between social cost and performance at Nigerian Brewery. Under the performance, the profit after tax, dividend per share, earnings per share, and return on assets were used to define the performance used in this project work.

The  $H_0$  stated in 1.5 was analyzed using linear regression for all the variables considered, and this gave various results. For the observation of the PAT on SC, we found that the correlation strength was 0.489, which is considered to be positive but weak. And the p-value was greater than 0.05, so we accepted the null hypothesis that stated that there is no significant effect of social cost on profit after tax. For the observation of the DPS on SC, we found that the correlation strength is considered to be positive but weak. And the p-value was greater than 0.05, so we accepted the null hypothesis that stated that there is no significant effect of social cost on dividend per share. For the observation of the EPS on SC, we found that the correlation strength is considered to be positive but weak. And the p-value was greater than 0.05, so we

accepted the null hypothesis that stated that there is no significant effect of social cost on earnings per share.

For the observation of the ROA on SC, we found that the correlation strength is considered to be positive but weak. And the p-value was greater than 0.05, so we accepted the null hypothesis that stated that there is no significant effect of social cost on dividend per shares. And these observations for the years being considered imply that social cost generally on Nigerian breweries' financial statements from 2007 – 2016 was not a major determining factor in the performance.

## CONCLUSION

This study has shown the relationship between social cost and performance in a Nigerian brewery. In chapter one, the introduction of the topic being worked was done, a statement of the problem to be worked on, objectives and aims, and then the hypothesis and research questions were stated as well. Chapter two contains the literature review where other works done as regards the study was considered and gave precedence to the tools used in this work.

The society is one factor the company cannot deal without, and social cost has a vital role to play in the valuation of the company in its various locations. Therefore, this work recommends that Nigerian Brewery should consider the environments where their various companies are and play a major role in enhancing the lives and properties of the indigenes of the locations. The geographical location should also benefit from what is gained from the company; as such, it is also recommended that the region of production and industries should engage in more corporate social responsibility, such as safety precautions and sensitisation, which can be included in the social cost, hence affecting the performance of the company.

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