



Sustainability Accounting and Market Based Performance: An Empirical Analysis of Quoted Manufacturing Companies in Nigeria

¹Dordum Prince Yaakoo ; ²Oladele Olatunde Afeez; ³Gbarako Blessing Leelee

University of Port Harcourt, Port Harcourt, Nigeria

*Email: dordum_yaakoo@uniport.edu.ng/ princedordumyaakoo@yahoo.com
olatundeoladele@gmail.com; blesslee100@gmail.com

ABSTRACT

There is apparent lack of consensus among researchers as to the effect of sustainability accounting on market based performance. This is because previous studies have not presented a definite result about the direction of the outcome of the two constructs. To address this obvious gap and other social, environmental and economic issues, the researcher investigated empirically the effect of sustainability accounting practices on the market based performance of quoted manufacturing companies in Nigeria. The data for the study was collected from the Nigerian Stock Exchange, 2012 to 2019 using the principle of Apply and Explain guiding sustainability reporting of the Nigerian Code of Corporate Governance, 2018 and was analyzed using regression for the panel data. The study found that social, environmental and economic accountability have a positive but insignificant effect on the earnings per share. The study concluded that there is the tendency that if the tenets of sustainability accounting is dutifully followed, especially now that there is global concern about the impact of human activities on the environment and the future generation, there will be improvement in the market performance of these firms particularly in the long run. Therefore, it is recommended that manufacturing companies should contribute to the overall wellbeing of the people, planet, economy and business in a sustainable manner.

Keywords: sustainability, people, planet, profit, earnings per share.

INTRODUCTION

In accordance to APICS (2005) dictionary, manufacturing industry is described as a series of inter-connected activities and operations relating to the design, management and marketing of distinct and diverse consumer and durable goods. Hence, its performance is paramount to interested parties. Manufacturing companies are companies that interact the most with society because they process raw materials to become goods that are ready to be marketed by involving various sources of raw materials, production processes, and technology, and have a significant contribution to social problems. Therefore, manufacturing companies are companies that are closely related to the social and the surrounding environment or have the broadest coverage of stakeholders so that they must conduct sustainability report disclosure.

According to Jahal (2018), corporate performance is all about the way in which an organization reports what it has been doing over its preceding year. Corporate financial performance can be looked at, as the level of performance of an organization at a point in time that can be measured in terms of overall profits and losses or asset utilization. Corporate performance is measured to give the account of stewardship by

the management team to the shareholders. The key aspect of this involves measuring the profitability, market value and growth prospect of a company. Financial performance is commonly used as an indicator of a firm's health over a given period of time. Corporate performance can be defined or measured in various ways including profitability, increase in turnover, gauge return, market share growth, return on investment, return on equity, return on capital employed and liquidity measures (Iliemena & Okolocha, 2019).

The adoption of shareholders' satisfaction as the primary objective of the firm has made the traditional economic business model to be predicated on making money, in terms of a financial return on investment either through payment of dividend from profit or through capital growth in share prices (Larrinaga-Gonzalez et al., 2002). It is based largely on only a single-use linear model, extracting raw materials, converting them into products, selling these products to a final consumer and then once the useful life of the product is over, scrapping the residual product as waste into the environment (Ellen MacArthur Foundation, 2012). This economic model assumes that resources can be substituted for each other in monetary terms such that the depletion of one resource (e.g reduced natural resources) is compensated for by another (e.g increased profit). The overriding driver is to complete this process as effective and efficient as possible in order to extract maximum financial return principally to those who have invested money (Mulligan, 2018). This linear business practice is detrimental to other stakeholders bearing the brunt of the negative externality of business. Also, the traditional business is mostly focused on growth-the expectation of continual growth in sales, profits, cash, dividends and investment.

However, these behaviours cannot be maintained indefinitely in a world where some key natural resources which are essential inputs in the production process are finite (Conway, 2018). The implication of this is that eventually some raw materials will cease to be available or will be available only at a much higher price in the future as they become scarcer

As a result, sustainability accounting, a business philosophy which refers to best reporting practices that promote and call for sustainable development is on the speed-lain to acquiring momentum in recent time and most especially, the harmonization and adoption of international financial reporting standards (IFRSs) and compliance with other environmental regulations enacted to encourage green operation, emphasizing more disclosure requirement is actively shaping a reporting system that gives prominent focus to the effect of firm's operation on the society at large (people and ecology). Sustainability accounting can be defined as the integration of reporting and accounting for social, environmental and economic issues in corporate reporting. This also what is known as "Triple Bottom Line" reporting (Elkington, 2004).Sustainability practices draw the attention of firms to issues such as resource usage, waste treatment, carbon emissions, water pollution, employee welfare and other unethical issues. It has been argued by many scientists and researchers that human activities mostly conducted for profit motives by business entities are acknowledged as having the most greatest impact on society such that have led to global warming and earth damage, causing an ever growing unsustainable environment (Unerman & O'Dwyer, 2007). Failing to manage these sustainability issues can substantially damage or destroy the reputation of a company and consequently affect its performance. The concept of sustainable operation describes the integration of profit and efficiency orientation of traditional operation management with vast considerations to the firm's internal and external stakeholders and its environmental impact (Kleindorfer et al., 2005). Today's superior opinion dictates that the era wherein firm's performance was predicated on it financial performance alone is become superannuated in recent time. Resource providers are interested to underscore the relationship between companies and their host communities, staff and ecology so to be armed with quality information for informed ethical investment decision (Adekanmi, 2015).

The modern business operation at the wake of industrial revolution necessitated the exploitation of nature's resources as a means of achieving value creation for a company (Rappaport,1986, cited in Perrini &Tencati, 2006). Saale (2007) opined that an essential drift on the production and operation of modern business is the ever amplifying concern for environmental, ethical and work diversity issues. Business development has social and environment impact that cumulates in social hitch, global warming, actual disaster and pollution. To this extent, congeries of business firms accepts much responsibility for social

and ecological issues as they do for economic issues. A prime reason for this is that business organisations are reflecting growing social aspiration and stakeholders concern (Nnamani et al., 2017).

Social and environmental reporting as an angle of sustainable development reflects the concern about environmental protection, inter-generational equality, the earth and its resources. According to Brundtland report 1987, sustainable development which is anchored on three cardinal pillars of planet protection, social equality and economic growth was described as the ability to meet the need of current generation without compromising the ability of future generation to survive and meet their own needs (WCED, 1987). Basically, when interests converge to establish a firm, the aim is to allocate resources with objective of achieving a common goal such as profit earning. To accomplish this goal, the firm must interplay with the society (people) and the environment (Planet). The interaction with planet, people and profit (3Ps of sustainability accounting) give presence to a range of implications that firms must take cognizance of, as a necessity for the creation of future sustainable business environment for all.

The motivation for this study stems from the fact that there are galaxy of research in this area but only scant studies have been conducted on the manufacturing industry. Researches on sustainability are skewed towards banking sector. Most studies on sustainability accounting and reporting are focused on developed countries with others slanted to the oil and Gas industry in Nigeria. Other related inquiries on the object of study have concentrated particularly on the environmental taxonomy of sustainability practices for manufacturing firms in Nigeria. To this extent, there is a dearth of empirical study on the effect of sustainability accounting on corporate financial performance of quoted manufacturing firms in Nigeria. Therefore, the study will be directed towards examining the effect of the cardinal pillars of sustainability accounting on the corporate financial performance of selected manufacturing companies in Nigeria and contribute to the evolving thought on the subject matter.

For the purpose of this study, sustainability accounting practices was measured using environmental, economic and social dimensions (Global Reporting Initiative, 2011; Elkington, 2004). The principle of Apply and Explain in the Nigerian Code of Corporate Governance 2018 also guided the measurement. While market performance was measured using earnings per share (Norhasimah et al., 2015). The following hypothesis formed the basis of the study:

Ho: Social, environmental and economic accountability significant effect on earnings per share of quoted manufacturing firms in Nigeria.

Literature Review

i) Stakeholders Theory

Stakeholder theory expounds on why firms worldwide disclose their sustainability activity. Freeman (2010) defined a stakeholder as “any group or individual who can affect or is affected by the achievement of an organization’s objectives” (Freeman, 1984). In defining stakeholder, Freeman (2010) considered both internal and external parties that affect and are affected by the firm (Sarkis et al., 2010). External parties often create pressures on firms to lower negative impacts and improve positive ones. According to Keynes (1936), stakeholders are categorized into three major groups:

- a) External stakeholders: governments, suppliers, competitors and customers.
- b) Internal stakeholders: boards of directors, employees, subsidiaries and parent company.
- c) Shareholders: all individuals or firms who are investing in shares and other securities of the firm.

Freeman (1994) asked two essential questions to understand the core of stakeholder theory: 1) What is the main aim of the firm? and 2) What is the management responsibility to stakeholders? The first question addresses the value firms creates. The second question relate to management’s communication with stakeholders. Stakeholder theory basically depends on the assumption that firms need to manage their relationship with their stakeholders in order to survive. Deegan and Blomquist (2006) clarified that according to stakeholder theory, reporting on specific types of information can be used to attract or maintain particular groups of stakeholders. For example, if a powerful individual or group is interested in a firm’s social or environmental activities, then disclosing information about social or environmental performance is essential to attract or maintain them. In fact, firms face challenges in meeting the

expectations of various stakeholders. More attention is paid to investors (Verbeeten et al., 2016), as they are the main contributors to the firm's survival. In the context of sustainability, the issue is to consider the needs of all stakeholders (shareholders, investors, employees, community and so on) while reporting on sustainability. This is supported by the normative section of stakeholder theory. A normative theory states that firms not only increase stockholders' financial returns but also must give equal consideration to the needs of other stakeholders to gain the optimal balance among them. In fact, any firm has explicit costs and implicit costs. The firm that attempts to decrease its implicit costs by being socially irresponsible will certainly incur additional explicit costs. Therefore, managers should satisfy the needs of all stakeholders, not just investors or shareholders (Melé, 2008). Thus, sustainability reporting will satisfy stakeholders' needs. For example, if employees are satisfied, they will work more effectively; satisfied customers will purchase more, and satisfied suppliers will provide discounts.

Conceptual Review

Concept of Sustainability Accounting Practice

What is meant by being sustainable or sustainability? The standard dictionary definition of the word sustainable in isolation is something which is capable of being sustained or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged' (Merriam-Webster, 2016). Hence the adjectival use of it with other words such as development, manufacturing or agriculture suggests that these actions are also capable of being sustained such that resources are not permanently depleted. This was conceptually at least what the ex-prime minister of Norway, Gro Harlem Brundtland might well have in mind when defining sustainable development as part of work done for the World Commission on Environment and Development (WCED). This definition was sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987). This definition has since become one of the most popular definitions of sustainable development used globally (White, 2013), it has influenced governments and organisations worldwide to incorporate the twin concepts of human and environmental wellbeing into their own policies. Indeed, the idea of current generations considering their impacts on future generations was also echoed in the UK government's view of sustainable development in 1994 Most societies want to achieve economic development to secure higher standards of living, now and for future generations. They also seek to protect and enhance their environment, now and for their children. Sustainable development tries to reconcile these two objectives. And more recently in 2015, despite the impacts of the intervening global financial crisis in 2008/2009, sustainable development means making the necessary decisions now to realise our vision of stimulating economic growth and tackling the deficit, maximizing wellbeing and protecting our environment, without negatively impacting on the ability of future generations to do the same (DEFRA, 2015). Even beyond the purely national context, it is important to consider the wider role of sustainability to provide an improvement in living standards for the whole of the earth's population, yet remaining within the capacity of the earth to sustain those improvements (IUCN et al., 1991). Whilst there are criticisms that even development as well as growth cannot be infinitely sustainable (White, 2013), other authors have noted that what is considered to be sustainable can change over time as new practices and organisations evolve to take advantage of new opportunities and technologies whilst old ones decline or are superseded. This evolution has occurred throughout both the natural world as new species has evolved and the human-derived world as ailing industries are taken over by new ways of working or technologies (Voinov & Farley, 2007). Hence by allowing processes and practices change and evolve rather than considering something to stay the same, sustainability can be defined as transforming our ways of living to maximize the chances that environmental and social conditions will definitely support human security, well-being and health (McMichael et al., 2003). This idea of adaptation and transformation will undoubtedly be key to long-term development, rather than unlimited economic growth. The term sustainability or triple bottom line accounting as it may be called was first neologised by John, the founder of a British consultancy in 1994 (Elkington, 2004). He contended that companies reporting system should be predicated on the triple bottom line principle and dimension of their business impact; such approach that transcends the ancestral method of gauging corporate performance. The

concept of sustainability was compartmentalized into social sustainability, environmental sustainability and economic sustainability.

Current Development on Sustainability in Nigeria

It is now mandatory for publicly quoted companies in Nigeria to report on sustainability and other corporate governance laws of FRCN and SEC, 2018. As a matter of fact, in 2018, the Financial Reporting Council of Nigeria issued the template in their code of corporate governance in Nigeria 2018 to form the basis for reporting sustainability in Nigeria. The Code adopts a principle-based approach in specifying minimum standards of practice that companies should adopt. Where so required, companies are required to adopt the “Apply and Explain” approach in reporting on compliance with the Code. The ‘Apply and Explain’ approach assumes application of all principles and requires entities to explain how the principles are applied. This requires companies to demonstrate how the specific activities they have undertaken best achieve the outcomes intended by the corporate governance principles specified in the Code. This is to avoid a box-ticking practice. As a follow up and given the peculiarity of the capital market, SEC came up with their own guidelines on corporate governance in Nigeria. It is believed that these guidelines would add to the standards of transparency, accountability and corporate governance of companies without unduly inhibiting enterprise and innovation. On sustainability, SEC’s guideline 13, stipulates that companies shall recognise corruption as a major threat to business and national development and therefore as a sustainability issue for businesses in Nigeria. Companies, Boards and individual directors must commit themselves to transparent dealings and to the establishment of a culture of integrity and zero tolerance to corruption and corrupt practices. On disclosure, guideline 14 stipulates that in order to foster good corporate governance, companies shall engage in increased disclosure beyond the statutory requirements in CAMA. Any company/ entity that violates the provisions of Nigerian Code of Corporate Governance and SEC Corporate Governance Guideline shall be liable to a fine N500,000 in the first instance and a sum of 5000 for every day the violation persists and or any other sanction as the commission may deem fit in the circumstance (FRCN&SEC, 2018).

i) Concept of Environmental Accounting

Environmental costs are expenditures incurred by firms in a bid to protect the environment, prevent environmental mishaps and minimize damages to the environment. They include those costs incurred to comply with, or prevent breach of environmental laws, regulations and policies. To this extent, environmental accountability becomes an ancillary tool for environmental management. Environmental accountability has been defined as activity geared towards the identification and measurement and reporting of cost incidental to environmental material and activities such as remediation and prevention of environmental degradation, and the utilization of this information for environmental decision making (Hansen & Mowen, 2000). The objective is to help entities minimize cost and environmental risk exposure as a consequent of value addition. It is the process of communicating the social and environmental effects of firm’s economic action to a specific stakeholder group within the society and to the enlarged body of stakeholders of the firm. As such it involves an accounting rehearse that goes beyond the face of conventional accounting and reporting system of availing financial bottom line information to capital financiers with particular interest to the equity holders. Such a broader view of accountability is deep-seated on the logical position that companies certainly have broader duty and role to play than just the objective of generating economic gains for the shareholder in the vision to satisfy the shareholders wealth maximization canon. Accordingly, due to the growing public concern on environmentally related issues, environmental accountable practices have gained an accelerated momentum from scholars in research within the accounting profession. An evidence of growing attention in environmental accounting studies is reflected in the several academic journal providing earmarked issues. This dimension concerns with preservation and development of the biological and ecological material resource base, by taking into account environmental considerations that ensure that waste does not exceed the current and future capacity of the environment. The environment dimension consists of four major aspects: energy, water, emissions and materials (GRI, 2013). Hence, in this study environmental accountability is measured, according to the principle of Apply and Explain guiding

sustainability reporting in NCCG 2018, by environmental expenditure (amount spent on maintenance to avoid abnormal emissions and discharge of useless energy to the environment, proper disposal of its waste or scrap materials for recycling and cleaning). This measure is also corroborated by Ibanichucha et al., (2016).

ii) Concept of Social Accounting

The social dichotomy of sustainability accounting otherwise known as “the People” is an aspect of sustainability that embodies the cost an entity incurs in connection to socially related issues such as employee welfare packages, community involvement as well as product/consumer related matters. Companies operate within the society and so the Community would expect that company will provide improved healthcare initiatives; support or charity, children education support, provision of work condition for the disabled, and participate in occupational qualification programmes. Socially responsible practices are mainly targeted at efforts to alleviate poverty, prevent violation of human rights and general improvement in social wellbeing of the society. Business is a socio-economic activity that obtains its input and utilizes resources from within the society, and therefore the objective of firms should equally be focused on meeting welfare of the society. From a corporate viewpoint, social sustainability is about underscoring business impacts on people and society. It is about evaluating potential hurt, needs, and aspirations. It is also about proactive and ardent contributions toward human development and wellbeing now and in the future (Linda, 2015). Social sustainability is the least quantifiable part of sustainability or the triple bottom line. Within the company, social sustainability involves such sensitive areas as human rights, fair labor practices, work hours and health, safety, and wellness. It also involves more nuanced areas such as diversity, equity, work-life balance, and empowerment. Outside the company, social sustainability involves community engagement, charity among others. It is also reflected in product quality responsibility, including product performance, safety, and standards. The social aspects of sustainability interrelate with the economic and environmental dimensions. For example, a large part of individuals’ social sustainability depends on the quality of their employment. This includes how a company treats them, how fulfilling their job is, or whether they make enough money to support a decent quality of life. The social dimension relates to the impact of the organization’s operations and activities on society as a whole. The social dimension consists of four major aspects: labor practices and decent work, human rights, society and product responsibility. Consequently, social accounting is measured by social responsibility expenditure (amount spent on donations, charity and trainings). Apart from NCCG 2018, this is also validated by Kipruto (2014).

iii) Concept of Economic Sustainability Accounting

More often question on sustainability has usually been addressed mostly in connection with ecological and social aspects with a usual tacit look at the economy. This same obvious bias towards the environmental and social impact may vividly be observed in various documentaries on sustainability development for example the Brundtland report emphasis, seems to revolve primarily around the environmental dimension. This conceptualization, off course may not be wrong but at least incomplete (David, 2015). The idea of sustainability is built on three cardinal pillars which are equally equal in weight and interrelated and thus be accorded equal attention; the society, economy and ecology. In reality, the relevance of each factor is defined by the outcome from the stakeholder’s analysis and the analysis conducted by different interest organisations. The sustainability impact of each organisation is different as well as the weighting of each dimensions of sustainability. Over the decade one of the most prominent standards in the field of sustainability has been the global reporting initiative (GRI) sustainability reporting guidelines. According to GRI, the economic aspect of sustainability is concerned with the company’s impact on the economic conditions of its stakeholders and on economic systems at local, national and global level. It illustrates the flow of capital among different stakeholders and the main economic impacts of the entity throughout society. Economic sustainability is the economic development that attempts to meet human needs in such manner that sustains natural resources and preserve the environment for future generation. The economic sustainability being a subset of sustainability initiative cannot be isolated from the whole set. The ecosystem sustainability initiative is managing these resources in a way that they will not be depleted as such would remain available for future generation. Most of the

harm to the environment such as natural resource depletion, pollution and landscape permanent changes are direct consequence of economic activities and most of the time the cost of these harms created by economic undertaken are not borne by those who create them but by other people who did not obtain benefit from the economic activities. The cost of these harms borne by those who did not consent to borne them is referred to as externality. The society and its sub system literary depend on the ecosystem. As the society become more industrialized so also will economic activities create more issues bordering on sustainability and survival of all. The economic dimension consists of four major aspects: economic performance, market presence, indirect economic impact and procurement practices (GRI, 2013). In line with NCCG 2018 principle, total output (turnover) of the study firms is used as the measure of economic accountability because this has a direct or indirect bearing on the expenditure incurred on the local, national and international economy, apart from being one of the measures of national income.

Market Based Performance Measure

Earnings per share is one of the broadest measures of market performance. Earnings per Share (EPS) can be defined as a portion of a company's profit allocated to a person's share of the stock. EPS are also chosen because it will be worthwhile to ascertain how sustainability reporting affect shareholders returns. It is also the market prospect ratio used to measure the net income earned per share of stock outstanding and helps to show how profitable a company has become especially on the shareholder's basis. As an important variable, it is used to determine a share's price which in turn is utilized to calculate the price-to-earnings valuation ratio. To understand valuation, it is the process whereby the current worth of an asset or company is determined. There are so many techniques used to value a company and some of them include looking at the company management, the capital structure, future earnings and market value of assets. EPS is an important financial measure to investors and traders. When it comes to calculating EPS, the weighted ratio should be used. This is because the number of shares outstanding is known to change with time. Earnings per share are calculated in order to indicate each shareholder's proportionate share in the company's earnings. An absolute increase in net income is not, in itself, an adequate indicator because net income may go up as a result of increased investment (Nyabirambi, 2004). For example, a company may issue more shares for cash. The increased investment would be expected to generate additional earnings for the company, but for an individual shareholder, the real question is whether net income increased enough to compensate for the increased number of shares outstanding. If the proportionate increase in net income was less than the proportionate increase in outstanding shares, then earnings attributable to each share will decline. This is an example of earnings dilution (Chagbadari, 2011). Since EPS figures are so widely used in the financial community, and because companies might calculate EPS figures in different ways, accounting standard setters in many countries (as well as the IASC) have attempted to standardize the computation of EPS

Empirical Review

Nnamani et al. (2017) evaluated the effect of sustainability accounting on the financial performance of listed manufacturing firms in Nigeria. Firms used for the study were chosen from the Nigerian brewery sector. Data were sourced from the financial statements of three sampled firms. Data were analysed using the ordinary linear regression. The study reveals that sustainability reporting has positive and significant effect on financial performance of firms studied. Following the findings, the study recommends that firms in Nigeria should invest reasonable amount of their earnings on sustainability activities while specific accounting templates be articulated by professional accounting regulating bodies to guide firms' reportage on sustainability activities. Okoye and Ezejiofor (2013) appraised the impact of sustainability environmental accounting in enhancing corporate productivity and economic performance it reviewed congeries of material such as journal papers, articles and other relevant material. The study which analysed and tested dual tentative statements reveals that sustainable environmental accounting has significant impact on corporate productivity in a bid to enhance corporate growth. Buys et al. (2011) examined whether there was a difference between the financial performances of the businesses that released and did not released sustainability report. The importance of the study results from the examination of the sustainability and financial performance relationship in a developing economy for the

first time. For this reason, two groups were formed from the public companies from 2002 to 2009 in South Africa, one released sustainability reports according to GRI and the other one did not release sustainability reports. The financial performances of these groups were measured with ROA and ROE. At the end of the study, although it was shown that the businesses releasing sustainability reports could produce better financial performances, it could not be determined a certain positive relation between statistical analysis sustainability report and economic performance. Soytaş et al. (2017) examined the effect of sustainability of 214 businesses in Turkey on financial performance. In the study, financial performance was measured with Return on Assets (ROA), Return On Equity (ROE) and Tobin Q rate. In the model, whether or not the businesses take part in CSR Hub database or BIST (İstanbul Stock market) Sustainability Index was evaluated as independent variable. Furthermore, the size of business, having foreign partner and sector variable were added as control variable. In the study, the effect of sustainability on financial performance was estimated with Regression Analysis by using Ordinary Least Squares (OLS) method. It was determined from the analyses that sustainability had a positive effect on financial performance. Carlos et al. (2017) studied sustainability matter and financial performance of companies. This research employs the fuzzy-set qualitative comparative analysis (fsQCA) and offers new evidence on the relationship between both types of performance in a sample of companies listed in the Spanish capital market. Financial performance is measured by the return on equity (ROE) ratio, variable that is widely used in Finance and Accounting related research. The corporate performance of the company is measured by its inclusion or not in the sustainability index used as reference for the Spanish capital market, the FTSE Good4 IBEX. The model also incorporates other business variables that might affect the relationships between both types of performance, such as return on assets (ROA) ratio, company size, debt ratio, and industry. The results suggest that, for specific industries, return on assets is a necessary condition for companies with leverage to reduce the cost of debt due to their sustainability profile and consequently boost their ROE. Erhirhie and Ekwueme (2019) examined corporate social sustainability reporting and financial performance of Oil and Gas Industry in Nigeria. This study assessed the effect of corporate social sustainability reporting on Return on Assets, Return on Equity, and Return on Capital Employed of oil and gas companies listed on the Nigeria Stock Exchange. Ten oil and gas companies were sampled for the study. The study utilized secondary data collected via financial ratios and accounts of the individual companies and content analysis. The findings showed that social sustainability reporting exerts negative effect on all three performance proxies, however only its effect on return on equity was statistically significant. The study recommends, among others, that existing sustainability reporting standards should be aligned to reflect country-specific social and environmental challenges, while its implementation should rather be obligatory rather than voluntary. Burhan and Rahmanti (2012) investigated sustainability reporting and company performance. It consists of 32 companies listed on Indonesian stock exchange during the period of year 2006-2009. The independent variables are sustainability reporting, economic performance disclosure, environmental performance disclosure, and social performance disclosure. These variables are measured by means of disclosure index. Sustainability Reporting Guidelines from Global Reporting Initiative (GRI) is used as the basis of calculating the index score. The dependent variable is Return on Asset (ROA) as a measure of economic performance. This research uses secondary data collected from company website and Indonesian stock exchange. The result shows that sustainability reporting influences company performance. However, partially, only social performance disclosure influences the company performance. Ameer and Othman (2012) examined sustainability practices and corporate financial performance: a study based on the top global corporations. The target population of this study consists of the top 100 sustainable global companies in 2008 which have been selected from a universe of 3,000 firms from the developed countries and emerging markets. We find significant higher mean sales growth, return on assets, profit before taxation, and cash flows from operations in some activity sectors of the sample companies compared to the control companies over the period of 2006–2010. Furthermore, our findings show that the higher financial performance of sustainable companies has increased and been sustained over the sample. Notwithstanding sample limitation, causal evidence reported in this paper suggests that, there is bi-directional relationship between corporate social responsibilities practices and corporate financial performance. Ibanichuka et al. (2016)

evaluated triple bottom line accounting and financial performance of oil companies in Nigeria. The study used ten years' financial statements of nine oil and gas companies listed on the Nigerian Stock Exchange. Regression was used for the data analysis. It was found that triple bottom line accounting has a positive and significant relationship with financial performance. Andania and Yadnya (2020) investigated the effect of sustainability report disclosure on the financial performance of banks listed in Indonesia Stock Exchange (IDX) during the period of 2013-2016. The study focused on the effect of economic dimension (EcDI), environmental dimension (EnDI), and social dimension (SoDI) disclosures on financial performance. The dimensions of sustainability report disclosure were measured through indicators that have been developed which are in accordance with Global Reporting Initiative (GRI) G4 Index and the financial performance measured through Return on Assets (ROA). The study results revealed that the disclosure of the economic and social dimensions had a statistically significant effect on ROA while the environmental dimensions did not affect the ROA. This means that the banks listed in Indonesia Stock Exchange (IDX) give more priority to the economic and social dimension disclosure, than to the environmental dimensions.

METHODOLOGY

The population of the study simply relates to the whole group of items which the researcher intends to study and about which he plans to generalize. The population of the study is made up of all the quoted manufacturing firms on Nigerian Stock Exchange. A sample size of ten(10) quoted manufacturing companies on the Nigerian Stock Exchange were judgmentally selected based on the availability of social, environmental and economic data within the period covered by the study. Another persuasive reason for the choice of the selected firms is that they are the manufacturing companies ranked among the top most thirty (30) capitalized companies in Nigeria (Society for Corporate Governance Nigeria, 2017). This means that they are market leaders and major players in the industry. It is believed that their activities have more implications on the society as reflected in their financial statements. As a result, findings from the sampled companies can be generalized to the population. Manufacturing Companies with the environmental, social and economic data selected for the study are: Champion Breweries Plc, Guinness Nig. Plc, International Breweries Plc, Nigerian Brew. Plc, Dangote Sugar Refinery Plc, Flour Mills Nig. Plc, NNFM Plc, Cadbury Nig. Plc, Unilever Nigeria Plc and PZ Cussons. The survey of archival documents or as it may be called secondary data was used. The data was taken from eight years' audited and published financial statements of the ten (10) publicly quoted purposively selected manufacturing firms in Nigeria that reported consistent sustainability information covering eight years(2012-2019), World Bank, United Nations, journals, text books, internet resources and seminar papers. Two different analytical techniques are employed in this study. They include the use of descriptive statistics and an econometric technique of Panel Data method. Descriptive statistics. Operationally, the researcher used sustainability accounting decomposed as environmental, social and economic accounting as the predictor variable. Environmental accountability was measured by environmental expenditure; social accountability will be measured using social responsibility expenditure, whereas economic accountability was measured by total output or turnover of the study firms. On the other side of the coin, financial performance was measured by return on asset, return on equity and earnings per share generated from the financial statements of the study companies as the criterion variable. The principle of 'apply and explain' also called 'principle based' guiding IFRS and the sustainability reporting template of the Nigerian Code of Corporate Governance by FRCN(2018) supported by SEC informed the choice of these measures.

Table 3.1 Variables and Measurement

S/N	Variable	Denotation	Measurement
1	Earnings Per Share	EPS	Net profit attributable to shareholders/number of shares in issue during the period
2	Environmental accountability	EnA	Expenditure on Environment
3	Social accountability	SoA	Expenditure on the society
4	Economic accountability	EcA	Total output or turnover of the firms.

Model Estimation

The following representations or denotations were made with respect to the variables of study. For the predictor variables: Environmental accountability (EnA), social accountability (SoA), Economic accountability (EcA). For the criterion variables: Earnings Per Share (EPS). The researcher started specifying the model by stating the functional relationship between the explanatory and response variable as follows:

$$EPS=f(SoA,EnA,EcA).....1$$

The above model is incomplete because it is devoid of error term and a constant. To overcome this, the researcher restates the above equations in econometric terms using regression model. The regression model is thus stated as: $Y_{it} = \alpha_0 + \beta_1 X_{it} + \mu_{it}$. Where: y_{it} is the criterion variable, α_0 is Constant term for the criterion variable and μ the random disturbance term. X_{it} are the predictor variables with β as the regression coefficients for the independent variables. For the purpose of improving the model based on the nature of the data, this study operationalizes the variables thus specified as:

$$EPS_{it} = \alpha_0 + \beta_1 SoA_{it} + \beta_2 EnA_{it} + \beta_3 EcA_{it} + \mu_{it}.....2$$

The theoretical model underpinning this model specification is the Cobb-Douglas Production Function expressed as follows:

$$Y=A*L^\beta*K^\alpha$$

Where:

Y is the total production or output of goods.

A is the total factor productivity, which is a positive constant or change in output that is not the result of main production factors.

K is the capital input which shows the quantity of capital that was used during production.

α is the output elasticity of capital.

β is the output elasticity of labour.

RESULTS AND ANALYSIS

This chapter gives attention to data presentation, analysis and discussion of findings. As earlier specified, the study investigated the effect of sustainability accounting practices on the financial performance of quoted manufacturing companies in Nigeria with the help of panel data analysis techniques.

Unit Root Test for Stationary Using Augmented Dickey Fuller

The unit root tests using Augmented Dickey Fuller is carried out to actually confirm the stationary of the data as also shown by the graphic results above. The results are presented below:

Table 4.2: Unit Root Test Results Presentation

Variables	P-Value	Unit ROOT At	ADF Result	Decision	Remarks
EPS	0.0000	Level form	-21.6953	Not supported	Stationary
SoA	0.0000	Level form	-4693.58	Not supported	Stationary
EnA	0.0000	Level form	-53.0911	Not supported	Stationary
EcA	0.0000	1st Difference	-3.99393	Not supported	Stationary

For EPS, since the P-value of 0.0000 with ADF result of -21.6953 is less than 0.05, we reject the null hypothesis. Meaning that EPS is stationary at level form. For SoA, since the P-value of 0.000 with ADF result of -4693.58 is less than 0.05, the null hypothesis is rejected. Meaning that SoA is stationary at level form. For EnA, since the P-value of 0.0000 with ADF result of -53.0911 is less than 0.05, the null hypothesis is rejected. Meaning that EnA is stationary at level form. While for EcA, since the P-value of 0.000 with ADF result of -3.99393 is less than 0.05, so we reject the null hypothesis meaning that EcA is stationary at first difference form.

4.2.3 Descriptive Analysis and Preliminary Tests

For the measures of central tendency, in table 4.2, SoA has a mean of 34953116 Naira, a median of 4118284 Naira and a standard deviation of 69723603. EPS has a mean of 1.152025, a median of 0.810000, standard deviation. EnA shows a mean of 2369618, a median of 229141.0, and standard deviation of 5293062, While EcA has a mean of 1.1208, a median of 60004119, standard deviation 1.2408. For the measures of normality, kurtosis measures the peakness and flatness of the distribution of the series. In the table 4.2 below. SoA has a positive Kurtosis of 12.8. It is Leptokurtic. EPS, EnA and EcA has a kurtosis of 18.16652, 7.467175 and 4.640929 respectively. Skewness measures the asymmetry of the series. Therefore in table 4.2, ROA has a positive skewness 0.8748. This mirrors a normal distribution. SoA has a positive skewness of 3.005. EPS has a negative skewness of -2.275646. EnA has a positive skewness of 2.450758. EcA has a skewness of 1,494392. Jarque Bera test measures the difference between the skewness and kurtosis of the series with those of the normal distribution. The null hypothesis of Jarque Bera test states that the distribution is normal. So a Jarque Bera value of 422.613 for SoA and a p-value of 0.000 means that we reject the null hypotheses. This implies that SoA is not normally distributed. For EPS, Jarque Bera is 825.3443 and p-value is 0.000000. Since the p-value is less than 0.05, the null hypothesis will be rejected. EnA shows a Jarque Bera of 144.7692 and p-value of 0.000000. The null hypothesis will also be rejected. While for EcA, Jarque Bera is 38.26718 and p-value is 0.000000. The null hypothesis of Jarque Bera will be rejected since p-value is less than 0.05.

Table 4.3: Descriptive Statistics Result

	SOA	ROE	ROA	EPS
Mean	34953116	15.62975	6.532658	1.152025
Median	4118284.	12.75000	5.900000	0.810000
Maximum	3.81E+08	58.02000	20.29000	9.950000
Minimum	0.000000	0.940000	0.390000	-18.00000
Std. Dev.	69723603	12.65471	4.663992	3.206586
Skewness	3.005014	1.290875	0.874641	-2.275646
Kurtosis	12.60564	4.407900	3.386030	18.16652
Jarque-Bera	422.6130	28.46508	10.56297	825.3443
Probability	0.000000	0.000001	0.005085	0.000000
Sum	2.76E+09	1234.750	516.0800	91.01000
Sum Sq. Dev.	3.79E+17	12491.04	1696.720	802.0113
Observations	79	79	79	79

Random Effect Model When EPS is the Dependent Variable and SOA, EnA and EcA are the Independent Variables

Dependent Variable: EPS
 Method: Panel EGLS (Cross-section random effects)
 Date: 07/27/21 Time: 03:15
 Sample (adjusted): 2013 2019
 Periods included: 7
 Cross-sections included: 10
 Total panel (unbalanced) observations: 68
 Swamy and Arora estimator of component variances.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.547760	0.636221	0.860958	0.3925
SOA	4.41E-09	6.05E-09	0.728394	0.4690
DECA	4.22E-09	8.53E-09	0.494281	0.6228
ENA	1.96E-07	1.20E-07	1.629972	0.1080
Effects Specification				
			S.D.	Rho
Cross-section random			1.482225	0.2354
Idiosyncratic random			2.671272	0.7646
Weighted Statistics				
R-squared	0.071395	Mean dependent var		0.651180
Adjusted R-squared	0.027867	S.D. dependent var		2.680791
S.E. of regression	2.641178	Sum squared resid		446.4527
F-statistic	1.640193	Durbin-Watson stat		1.120914
Prob(F-statistic)	0.188861			
Unweighted Statistics				
R-squared	0.152139	Mean dependent var		1.132353
Sum squared resid	557.6357	Durbin-Watson stat		0.897423

SoA has a coefficient of 4.49×10^{-9} and a p-value of 0.469. This means that SoA does not have a significant effect on the EPS. EnA has a coefficient of 1.96×10^{-7} and a p-value of 0.1080. This means that EnA does not have a significant effect on the EPS. EcA has a coefficient of 4.22×10^{-9} and a p-value of 0.6228. This means that EcA does not have a significant effect on the EPS. The R-Square value which determines the fitness of the model is 0.071395 (7.1%). This implies that the independent variables has 7.1% effect on the dependent variable.

Table 4.22 Result Summary of Hypotheses Analysis

Hypotheses	Variables Effect	Decision Criteria Model	Coefficient	R-Square for the Combined Effect	P-value	Level of Significance	Null Hypotheses
SoA, EnA and EcD do not have any significant effect on EPS	SoA on EPS	Random Effect	4.49×10^{-9}	0.071395 (7.1%).	0.469	0.05	Supported
	EnA on EPS	Random Effect	1.96×10^{-7}		0.1080	0.05	Supported
	EcA on EPS	Random Effect	4.22×10^{-9}		0.6228	0.05	Supported

From the result, social accountability has a coefficient of 4.49×10^{-9} and a p-value of 0.469. Since this p-value is more than 0.05 level of significance, this means that social accountability does not have a significant effect on the earnings per share of quoted manufacturing companies in Nigeria. Environmental accountability has a coefficient of 1.96×10^{-7} and a p-value of 0.1080. This p-value is more than 0.05. Hence, the null hypothesis will be accepted. This means that environmental accountability does not have a significant effect on the earnings per share of quoted manufacturing companies in Nigeria. Economic accountability also has a coefficient of 4.22×10^{-9} and a p-value of 0.6228. P-value is more than the level of significance of 0.05. Thus the null hypothesis will be accepted. This means that economic accountability does not have a significant effect on the earnings per share of quoted manufacturing companies in Nigeria. The R-Square value which determines the combined fitness of the model is 0.071395 (7.1%). This implies that the independent variables social, environmental and economic accountability have 7.1% effect on the dependent variable of earnings per share of quoted manufacturing companies in Nigeria. This is supported by Ufuegbu and Asogwa (2020) whose findings suggest that economic and social performance has an insignificant positive impact on both earnings per share. This is also corroborated by Ndukwu and Nwakanma (2017) that found no significant relationship between earnings per share and corporate sustainability reporting.

Based on the results of the analysis, the findings are:

- a. Social accountability (SoA) does not have a significant effect on the earnings per share (EPS). By inference, an upswing in social accountability does not lead to a matching effect on EPS of manufacturing companies in Nigeria.
- b. Environmental accountability (EnA) does not have a significant effect on the earnings per share (EPS). This means that an improvement in environmental accountability does not spur an improvement in earnings per share of manufacturing companies in Nigeria.
- c. Economic accountability (EcA) does not have a significant effect on the earnings per share (EPS) of manufacturing companies in Nigeria.

CONCLUDING REMARKS

The study empirically investigated the effect of sustainability accounting on market performance of quoted manufacturing companies in Nigeria. In view of the discoveries made in this study which revealed statistical insignificant but positive effect of the predictor variables on the criterion variable. The study concluded that there is the tendency that if the tenets of sustainability accounting is dutifully followed, especially now that there is global concern about the impact of human activities on the environment and the future generation, there will be improvement in the market performance of these firms particularly in the long run. Based on the conclusion of this work, it is recommended that: Companies in Nigerian manufacturing sector should not only be economically accountable to their shareholders but also socially, environmentally answerable to the people and planet that provide the context and input into the production process as this would lead to an increase in earnings per share and thereby contributing to the sustainability of manufacturing business in Nigeria.

REFERENCES

- Adekanmi, A.D. (2015). Environmental accounting: A tool for sustainable development. *International Journal of Advanced Academic Research - Social Sciences and Education*, 1(2).22-44
- Ameer, R. & Othman, R. (2012). Sustainability practices and corporate financial performance: A study based on the top global corporations. *Journal of Business Ethics*, 108(1), 61-79
- Andania, N.P. & Yadnya, P. (2020). The effect of sustainability report disclosure on the financial performance of banks listed in Indonesia Stock Exchange (IDX). *American Journal of Humanities and Social Sciences Research (AJHSSR)*, 4(1), 60-67
- APICS. (2005). APICS Dictionary, 01102. APICS, Alexandria, VA.
- Burhan, A.H., & Rahmanti, A. (2012). The impact of sustainability reporting on company performance, *Journal of Economics, Business, and Accountancy Ventra*, 15(2), 257 – 272.

- Buys, P., Oberholzer, M. & Andrikopoulos, P. (2011). An investigation of the economic performance of sustainability reporting companies versus non-reporting companies: A South African Perspective. *Journal of Social Sciences*, 29(2), 151-158.
- Deegan, C. & Blomquist, C. (2006). Stakeholder influence on corporate reporting: An exploration of the interaction between WWF-Australia and the Australian minerals industry. *Accounting, Organizations and Society*, 31(4-5), 343-372.
- DEFRA. (2017). "Single-Use Plastic Carrier Bags Charge: Data in England for 2016 to 2017." <https://www.gov.uk/government/publications/carrier-bagcharge-summary-of-data-in-england/single-use-plastic-carrier-bags-chargedata-in-england-for-2016-to-2017>
- Elkington, J. (1997). *Cannibals with forks: the triple bottom line of twenty-first century business*. Capstone
- Elkington, J. (2004). Enter the triple bottom line. The triple bottom line: Does it all add up, 1-16.
- Ellen Macarthur Foundation. (2012). Efficiency vs Effectiveness in the Circular Economy. <https://www.ellenmacarthurfoundation.org/circular-economy/interactive-diagram/efficiency-vs-effectiveness>
- Erhirhie, F.E.& Ekwueme C.M. (2019). Corporate social sustainability reporting and financial performance of oil and gas industry in Nigeria. *International Journal of Accounting, Finance and Risk Management*, 4(2), 44-60.
- Freeman, E.R. (1984). *Strategic Management: A Stakeholder Approach*. Boston: Pitman Press.
- Freeman, R.E. (2010). *Strategic management: A stakeholder approach*. Cambridge University Press
- GRI (2011). Sustainability Reporting Guidelines: G3.1 version, Retrieved from <http://globalreporting.org> on 10th December, 2017
- Guthrie, J. & Farneti, F. (2008). GRI sustainability reporting by Australian public sector organisations. *Push Money and Management*, 28(6), 361-366.
- Hansen D. & Mowen M. (2005). *Management accounting* (7th Edition). Thomson Wadsworth Publishers
- Ibanichuka, E.A., Nwaiwu, J. & Yaakoo, D.P. (2016). Triple bottom line accounting and financial performance of oil companies in Nigeria. *West African Journal of Business and Management Sciences*, 5(2), 1-14
- Ibanichuka, E.A., Nwaiwu, J. & Yaakoo, D.P. (2016). Triple bottom line accounting and financial performance of oil companies in Nigeria. *West African Journal of Business and Management Sciences*, 5(2), 1-14.
- Iliemena, R.O. (2020). Environmental accounting practices and corporate performance: study of listed oil and gas companies in Nigeria. *European Journal of Business and Management*, 12(22), 2222-2839
- Iliemena, R.O.C & Okolocha, C.B. (2019). Effect of audit quality on financial performance: Evidence from a developing capital market. *International Journal of Recent Research in Commerce, Economics and Management*, 6(3), 191-198
- IUCN, UNEP & WWF. (1991). *Caring for the Earth: A Strategy for Sustainable Living*. Switzerland: IUCN – The World Conservation Union, UNEP – United Nations Environment Programme, WWF – World Wide Fund for Nature.
- Johal, P. (2018). Corporate reporting: From numbers to narrative. Derby Business School, University of Derby, Derby, UK. In In Conway, E. and Byrne, D. (eds.) (2018). *Contemporary Issues in Accounting*. <https://doi.org/10.1007/978-3-319-91113-7-3>
- Keynes, J.M. (1936). *The General Theory of Employment, Interest and Money*. Keynes The General Theory of Employment, Interest and Money.
- Kipruto, D. (2014). The effect of corporate social responsibility on financial performance
- Kleindorfer, P.R., Singhal, K. & Wassenhove, L.N. (2005). Sustainable operation management. *Production and Operation Management*, 14(4), 482-492
- Larrinaga, G., Carlos, F.C., Carmen, C., Fernando, L. & José, M. (2002). Accountability and Accounting Regulation: The Case of the Spanish Environmental Disclosure Standard. *European Accounting Review*, 11(4), 723–740

- McMichael, A.J., Butler, C.D. & Folke, C. (2003). New Visions for Addressing Sustainability. *Science*, 302(5652), 1919–1920
- Melé, D. (2008). Corporate social responsibility theories. In *The Oxford handbook of corporate social responsibility*
- Merriam-Webster. (2016). *The Merriam-Webster Dictionary*. Martinsburg, USA. <https://www.merriam-webster.com/>
- Mulligan, M. (2018). *Introduction to Sustainability*, 2nd ed. Oxford: Earthscan-Routledge
- Ndukwe, O.D & Nwakanma, G.N. (2017). Corporate sustainability reporting and firm profitability: A survey of selected quoted companies in Nigeria. *Journal of Finance, Banking and Investment*. 4 (2)1-15.
- Nnamani, J.N., Onyekwelu, U.L. & Ugwu, O.K. (2017). Effect of sustainability accounting and reporting on financial performance of firms in Nigeria brewery sector. *European Journal of Business and Innovation Research*, 5 (1), 1-15.
- Norhasimah, M.N. Norhabibi, A.S.B. Nor, A.A . Sheh, M. Qamarul, A.S.K. & Inaliah, M.A. (2015). The effect of environmental disclosure on financial performance in Malaysia 7th International Economics & Business Management Conference, 5th - 6th October 2015.
- Okoye, P.V.C. & Ezejiofor, R.A. (2013). An appraisal of sustainability environmental accounting in enhancing corporate productivity and economic performance. *International Journal of Advanced Research*, 1(8), 685-693
- Perrin, F. & Tencati, A. (2006). Sustainability and Stakeholder management: the need for new corporate performance evaluation and reporting systems. *Business Strategy and the Environment*, 15(1) 296-308
- Soytaş, M.A., Denizel, M., Uşar, D.D. & Ersoy, İ. (2017). Sürdürülebilirlik yatırımlarının finansal performansa etkisi: Türkiye örneği. *Yönetim ve Ekonomi Araştırmaları Dergisi*, 15(2), 140-162
- Unerman, J., Bebbington, J. & O'Dwyer, B. (Eds.). (2007). *Sustainability Accounting and Accountability*, London: Routledge
- Verbeeten, F.H., Gamerschlag, R. & Möller, K. (2016). Are CSR disclosures relevant for investors? Empirical evidence from Germany. *Management Decision*, 54(6), 1359-1382
- Voinov, A. & Farley, J. (2007). Reconciling sustainability, systems theory and discounting. *Ecological Economics*, 63(1), 104-113
- WCED (1987). *Our Common Future*, Oxford University Press, Oxford, available at: http://conspect.nl/pdf/Our_Common_Future-Brundtland_Report_1987.pdf (accessed 10 June 2014).
- White, M.A. (2013). Sustainability: I Know It When I See It. *Ecological Economics* 86, 213-217.