

Green Accounting and Financial Performance of Quoted Manufacturing Companies in Nigeria

Awuji Charles Evans, Ph.D

Charmax2k2@yahoo.com

08037719903

Anugwo Kelvin Ngozi, Ph.D

anugwokelvin@yahoo.com

08033095103

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Abstract

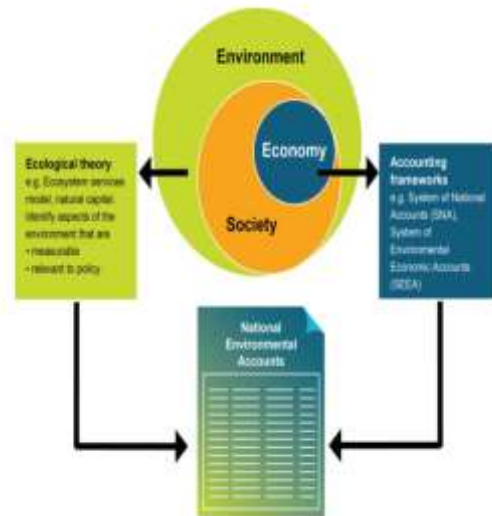
The study investigated green accounting activities and its implementations by manufacturing companies in Nigeria in relating to their financial performance. Qualitative research was adopted due to the fact that most of the Nigerian manufacturing companies do not attach financial quantities to their reports on sustainability activities. A sample of fifteen (15) manufacturing companies were investigated- (Dangote Floor mill, Dangote Cement, Cadbury.) The study used data from the central bank statistical bulletin as well as Nigeria Stock Exchange, and data were analyzed in the Statistical Package for Social Sciences (SPSS) Version 22. As well as Microsoft Excel The research hypotheses were tested using Ordinary Least Square Regression (OLSR) analysis at a significance level of .05. The results of the findings were that there is no positive linear relationship between sustainability accounting of manufacturing companies and their profitability in Rivers state. This study recommends among others that as green accounting and sustainability reporting is still in arithmetic progression in Nigeria, more efforts should be applied in this regard, doing this will see a future positive correlative effect on the profitability of the manufacturing companies in Nigeria

INTRODUCTION

Manufacturing has generally been described and accepted as an engine of growth and development of any country. In modern economies, industrialization under industrial sector is widely conceived as a critical tool for accelerating economic growth and development. It serves as a channel for the production of goods and services, creation of massive employment opportunities and generation incomes (Sola, 2013). According to Ifeoma (2020), manufacturing is viewed as the production of merchandise for sale or use through the application of tools, machine, labour, chemical and biological formulation. It involves both handicraft of human activities and high tech through which raw materials are transformed or converted into finished product in large scale. In modern economy today, the development of industries (industrialization) is extensively based on technological development of productive strategies.

This simply implies a transformation of an economy from traditional low production system into modern mass production system, which involves more efficient and automated system through sustained and deliberate combination and application management techniques, suitable technology and other resources that promote high tech production techniques (Ayodele & Falokun, 2003). It has been argued that the fastest channel by which rapid sustainable growth and development is achieved in any economy is via industrial capacity, technological innovation and enterprise development, rather than vast human resources and level of endowed material resources (Olamade et al 2014). For example, most developed countries like Germany, rose to become one of the largest economy in the world today despite its poor natural resources and chronic inflation it faced from 1920s, due to its effective exploitation of the manufacturing sector. More so, Ifeoma (2020) postulated that industrial development deals with the application of modern equipments, machines and technology in the production of goods and services as well as to alleviate human suffering and ensure welfare improvement in a society. Hence, modern manufacturing processes involve the development of managerial and entrepreneurial skills as well as high technological innovations that often promote large scale productivity and improved living conditions. In Nigeria, the history of manufacturing and industrial development reflect how a nation could neglect a vital sector via economic policy inconsistencies and the abandonment of the agricultural sector for oil sector, which was the major economic base of the country due to the discovery of oil in commercial quantity in 1970s. Ou (2012) contested that oil industry in Nigeria is not a major determinants of employment; hence, it has limited contributions to other sectors of the economy since the capacity is yet to be developed by the government to vigorously pursue the more value-added activities of the petrochemical value chain. Thus, the oil industry has overtime lacks technological spillover effects. For instance, the contribution of the manufacturing sector to economic growth in Nigeria before 1970s was 10%. Ifeoma (2020) expressed that economic growth in Nigeria affected adversely due to prolonged economic recession caused by a fell in the world oil market in the early 1980salongside the sharp decline in the foreign exchange earnings. Consequently, the economy suffered series of problems ranging from excessive dependence on import for consumption and input materials, socio-economic infrastructure decay, capacity under-utilization in the industrial sector, poor management strategies and institutional framework, and agricultural sector neglect that used to be the economic base of the Nigerian economy, etc. As a result, the economy has remained undiversified with a decreased in incomes and standard of living of the people.

Conceptual Review



Green accounting is a type of **accounting** that attempts to factor **environmental** costs into the financial results of operations. It has been argued that gross domestic product ignores the environment and therefore policymakers need a revised model that incorporates **green accounting**.

Green Business

Sustainable **business**, or a **green business**, is an enterprise that has minimal negative impact on the global or local environment, community, society, or economy—a **business** that strives to meet the triple bottom line. Often, sustainable **businesses** have progressive environmental and human rights policies.

Meaning and Need of Green Accounting-

It permits the computation of income for a nation by taking into account the economic damage and depletion in the natural resource base of an economy. It is a measure of sustainable income level that can be secured without decreasing the stock of natural assets.

Green accounting is a type of accounting that attempts to factor environmental costs into the financial results of operations. It has been argued that gross domestic product ignores the environment and therefore policymakers need a revised model that incorporates green accounting.^[1] The major purpose of **green accounting** is to help businesses understand and manage the potential quid pro quo between traditional economics goals and environmental goals. It also increases the important information available for analyzing policy issues, especially when those vital pieces of information are often overlooked.^[2] Green accounting is said to only ensure weak sustainability, which should be considered as a step toward ultimately a strong sustainability.^[3]

It is a controversial practice however, since depletion may be already factored into accounting for the extraction industries and the accounting for externalities may be arbitrary. It is obvious therefore that a standard practice would need to be established in order for it to gain both credibility and use. Depletion is not the whole of environmental accounting however, with pollution being but one factor of business that is almost never accounted for specifically. Julian Lincoln Simon, a professor of business administration at the University of Maryland and a Senior Fellow at the Cato Institute, argued that use of natural resources results in greater wealth, as evidenced by the falling prices over time of virtually all nonrenewable resources.^[4]

The term was first brought into common usage by economist and professor Peter Wood in the 1980s. Peter Wood

The term **Environmental accounting** was used for the first time in the year 1980s by Professor Peter Wood. **Environmental accounting** or **green accounting** is a new branch of **accounting** that aims at **accounting** for the Environment and its well-being. Mar 20, 2017

Environmental responsibility is a potent issue among businesses in this modern age. It has become necessary for corporation to formulate methods of promoting green causes for the present and the future.^[5] Green accounting helps promote a sustainable future for businesses as it brings green public procurement and green research and development into the big picture. Penalties for polluters and incentives (such as tax breaks, polluting permits, etc.) are also a crucial part of this type of accounting.^[6]

The System of National Accounts (SNA) defines Net Domestic Product (NDP) as-

$$\text{NDP} = \text{Net Exports} + \text{Final Consumption (C)} + \text{Net Investment (I)}$$

This is also a typical formula found in articles and texts about accounting.^[7]

Green Accounting, however, uses the System of Environmental Economic Accounting (SEEA), which focuses on the depletion of scarce natural resources and measures the costs of environmental degradation along with its prevention.

Thus, the NDP is newly defined as Green NDP, or also known as EDP. The green accounting formula is-

$$\text{EDP} = \text{Net Exports} + \text{C} + \text{NAp.ec} + (\text{NAp.ec} - \text{NAp.n})$$

Where-

EDP = Environmental Domestic Product,

C = Final Consumption,

NApec = Net Accumulation of Produced Economic Assets,

NANp.ec = Net Accumulation of Non-produced Economic Assets,

NANp.n = Net Accumulation of Non-produced Natural Assets.^[7]

Challenges

Environmental protection and economic growth

The effect of environmental policies on the economy has always been a controversial topic. Many economists argue that sanctioned limits on pollution curtail economic growth.^[2] For instance, between 1973 and 1982, the United States imposed stricter regulations on pollution, which led to a 0.09% decrease per year in the national output growth.^[8] A study conducted in 1990 also analyzed the economic growth with during the time period between 1973 and 1980s. The result indicated that the government regulation reduced the annual GNP by 0.19% per year.^[9] Other researchers argue that those number is insignificant compared to protecting and sustaining the priceless environment.

Distributional impacts of environmental and natural resource policies

Not all industries pollute the same amount; chemical and paper manufacturing industries, for example, tend to pollute more than others. It is difficult to accurately measure the pollution level of each industry in order to categorize and to set up a fair set of policies. In particular, improved water quality might highly favor the higher income groups due to the fact that most improvements are done in the urban areas.

Links between trade and environmental and natural resource policies

During the time of globalization and the rapid expansion of the international market, the US policymakers have come to realize the importance of what is happening in other countries. Before making any decision and submitting the final draft to Congress, the policymakers were concerned about the effects of the North American Free Trade Agreement on the environment.^[9] National accounting systems that include environmental and natural resources could provide useful information during negotiations over the nations' commitments to restore or maintain natural capital.

Trade restrictions have not been used when a country's production and processing methods result in excessive discharges of pollutants (carbon, sulfur, nitrogen oxides, chlorofluorocarbons) across national boundaries. The difficulty comes in when determining the effects of trans-boundary pollutants on industry costs.^[2]

The 3 Pillars of Corporate Sustainability

Chandler (2020) Corporate sustainability has become a buzzword in companies big and small. Wal-Mart Stores, Inc. (WMT), McDonald's Corporation (MCD) and many of the true corporate giants have named sustainability as a key priority moving forward. (For more, see- Yum! Brands Believes in Sustainability.) Now other corporations are under pressure to show how *they* plan to commit, and deliver their goods and services in a sustainable manner. This, of course, begs the question of what exactly this all means.

Corporate sustainability in investment can fall under the terms ESG for environment, social, and governance or the acronym SRI which stands for socially responsible investment.

Sustainability is most often defined as meeting the needs of the present without compromising the ability of future generations to meet theirs. It has three main pillars- economic, environmental, and social. These three pillars are informally referred to as people, planet and profits.

Key Takeaways

- Corporate sustainability is a growing concern among investors who seek not only economic profit but also social good.
- ESG investment represents the 3 pillars of sustainable investing- environmental, socially responsible, and governance.
- With the growth of socially responsible funds and ETFs, corporate sustainability may ultimately add a competitive edge to a company's bottom line.

1. The Environmental Pillar

The environmental pillar often gets the most attention. Companies are focusing on reducing their carbon footprints, packaging waste, water usage and their overall effect on the environment. Companies have found that have a beneficial impact on the planet can also have a positive financial impact. Lessening the amount of material used in packaging usually reduces the overall spending on those materials, for example. Walmart keyed in on packaging through their zero-waste initiative, pushing for less packaging through their supply chain and for more of that packaging to be sourced from recycled or reused materials. (For more, see- Where Can I Find a Company's Stance on the Environment?)

Other businesses that have an undeniable and obvious environmental impact, such as mining or food production, approach the environmental pillar through benchmarking and reducing. One of the challenges with the environmental pillar is that a business's impact are often not fully costed, meaning that there are externalities that aren't being captured. The all-in costs of wastewater, carbon dioxide, land reclamation and waste in general are not easy to calculate because companies are not always the ones on the hook for the waste they produce. This is where

benchmarking comes in to try and quantify those externalities, so that progress in reducing them can be tracked and reported in a meaningful way.

2. The Social Pillar

The social pillar ties back into another poorly defined concept- social license. A sustainable business should have the support and approval of its employees, stakeholders and the community it operates in. The approaches to securing and maintaining this support are various, but it comes down to treating employees fairly and being a good neighbor and community member, both locally and globally.

\$12 trillion

Between 2016 and 2018, sustainable, responsible and impact investing grew at a more than 38 percent rate, rising from \$8.7 trillion in 2016 to \$12 trillion in 2018, according to the U.S. Forum for Sustainable and Responsible Investment.

On the employee side, businesses refocus on retention and engagement strategies, including more responsive benefits such as better maternity and paternity benefits, flexible scheduling, and learning and development opportunities. For community engagement, companies have come up with many ways to give back, including fundraising, sponsorship, scholarships and investment in local public projects.

On a global social scale, a business needs to be aware of how its supply chain is being filled. Is child labor going into your end product? Are people being paid fairly? Is the work environment safe? Many of the large retailers have struggled with this as public outrage over tragedies like the Bangladesh factory collapse, which have illustrated previously unaccounted for risks in sourcing from the lowest-cost supplier. (For more, see- Go Green With Socially Responsible Investing.)

3. The Economic Pillar

The economic pillar of sustainability is where most businesses feel they are on firm ground. To be sustainable, a business must be profitable. That said, profit cannot trump the other two pillars. In fact, profit at any cost is not at all what the economic pillar is about. Activities that fit under the economic pillar include compliance, proper governance and risk management. While these are already table stakes for most North American companies, they are not globally.

Sometimes, this pillar is referred to as the governance pillar, referring to good corporate governance. This means that boards of directors and management align with shareholders' interests as well as that of the company's community, value chains, and end-user customers. With regard to governance, investors may want to know that a company uses accurate and transparent accounting methods, and that stockholders are given an opportunity to vote on important issues. They may also want assurances that companies avoid conflicts of interest in their choice of board

members, don't use political contributions to obtain unduly favorable treatment and, of course, don't engage in illegal practices.

It is the inclusion of the economic pillar and profit that makes it possible for corporations to come on board with sustainability strategies. The economic pillar provides a counterweight to extreme measures that corporations are sometimes pushed to adopt, such as abandoning fossil fuels or chemical fertilizers instantly rather than phasing in changes.

4. The Impact of Sustainability

The main question for investors and executives is whether or not sustainability is an advantage for a company. In practical terms, all the strategies under sustainability have been co-opted from other business movements like *Kaizen*, community engagement, the BHAG (Big Hairy Audacious Goal), talent acquisition and so on. Sustainability provides a larger purpose and some new deliverables for companies to strive for and helps them renew their commitments to basic goals like efficiency, sustainable growth and shareholder value.

Perhaps more importantly, a sustainability strategy that is publicly shared can deliver hard-to-quantify benefits such as public goodwill and a better reputation. If it helps a company get credit for things they are already doing, then why not? For the companies that cannot point to an overall vision to improve in these three pillars, however, there isn't a real market consequence — yet. The trend seems to be making sustainability and a public commitment to it basic business practices, much like compliance is for publicly traded companies. If this comes to pass, then companies lacking a sustainability plan could see a market penalty, rather than proactive companies seeing a market premium.

Although it very much a buzzword, sustainability is here to stay. For some companies, sustainability represents an opportunity to organize diverse efforts under one umbrella concept and gain public credit for it. For other companies, sustainability means answering hard questions about the how and why of their business practices that could have a serious, if gradual, impact on their operations.

5. The Bottom Line

Sustainability encompasses the entire supply chain of a business, requiring accountability from the primary level, through the suppliers, all the way to the retailers. If producing something sustainably becomes a competitive edge for supplying multinational corporations, this could reconfigure some of the global supply lines that have developed based solely on low-cost production. Of course, that scenario depends on how strongly corporations embrace sustainability and whether it is a true change of direction or just lip service.

DR NDIDI NNOLIGroup Chief Sustainability & Governance Dangote Group of Company-
In 2018, the Sustainability & Governance Function of the Dangote Group, embarked on an extensive Stakeholder Engagement exercise to operationalize its approach to Sustainability.

Dangote Cement Plc (DCP) is pioneering this initiative, driven by the highest level of governance and involving all key management functions of the business. Dangote Cement's adoption of the 7-Pillar Approach to Sustainability mainstreams the business' commitment to evolve holistic strategy, structures, processes, systems, human capital and internal capacity to drive the Group-wide sustainability agenda across all its companies in Africa. During the current reporting period, we furthered our efforts to institutionalize sustainability by enrolling 500 Sustainability Champions and 97 data owners across the various business functions. Leveraging the 7-Pillar approach to sustainability, every aspect of our business is touched and involved in the agenda to build a sustainable global brand. Our sustainability journey is centered around people and systems and involves all business functions, including Operations, Marketing, Finance, Risk, Community Relations, Health & Safety, Environment, Social, Procurement, Human Resources, Legal and Compliance. Most importantly, we have prioritized internal stakeholder engagement in order to nurture a culture of sustainability ,thinking and doing' among all our employees. Our 2018 activities were interlinked, with every new initiative cascading into the next. The feedback from our employee survey, for example, prompted a group-wide sustainability training program, which we co-facilitated with the Sustainable Business Initiative of the University of Edinburgh. Following the survey, which 1170 staff participated in, we prioritized certain sustainability disclosures in accordance with GRI Standards. Our resulting Materiality Matrix can be found in the Appendix of this report. This Matrix was developed and shared with a cross-section of employees and other stakeholders for further validation, after which we presented it for final sign-off to the DCP Board of Directors. A significant fall-out from the Employee Survey was our maiden Sustainability Week, which was inspired by ideas from our staff. The Sustainability Week initiative took Living The Dangote Way from the workplace to communities across 6 major African locations. The project was supported by top management across DCP Plants and was mostly employee-led. Projects carried out during the Week included environmental sanitation, waste management, economic empowerment, educational, health and road infrastructure development. Some of these projects were subsequently adopted by the business. In addition to the positive socio-economic impact, the initiative provided a unique platform for bonding and networking across functions, involving both senior and junior colleagues working side-by-side for a good cause. At different levels, Our Approach determining material topics and indicators for sustainability102-46DR NDIDI NNOLIGroup Chief Sustainability & Governance
Dangote 7 Sustainability Pillars

FINANCIAL

Achieve sustainable financial health through a business model that delivers strong returns to share-holders, whilst creating value in the economies in which we operate, by selling high quality products at affordable prices, supported by excellent customer service.

INSTITUTIONAL

Build a world-class institution centered around corporate go-vernance best practices and sustainability principles that promote legal and regulatory compliance, transparency and business continuity

ECONOMIC

Promote inclusive, sustainable economic growth, self reliance, self-sufficiency and industrialisation across Africa, by establishing efficient production facilities and developing resilient local economies in strategic locations and key markets.

CULTURAL

Embody our core values in the way we do business, including respect for cultural diversity and giving back to the societies in which we operate. To achieve this, we actively encourage teamwork, empowerment, inclusion, equity, integrity and meritocracy within our organisation.

OPERATIONAL

Serve and satisfy our markets by working together with partners to deliver the best products and ser-vices to our valued customers and stakeholders, through continuous product improvement, new business development, employing state-of-the-art technologies and systems to constantly optimise cost-efficiencies.

ENVIRONMENTAL

Create sustainable environmental management practices, through a proactive approach to addressing the challenges and opportunities of climate change, while optimi-sing our performance in energy efficiency, water usage and emissions.

SOCIAL

Create a learning environment and platform for our employees to grow and achieve their fullest potential, whilst adhering to the highest stan-dards of health and safety. In our host communities, we strive to develop resi-lient and sustainable prosperity through direct and indirect employment, skills transfer and local entrepreneurial development

Theoretical Review

Green Accounting requires **Accounting** that not only focuses on Profit but also on People and the Planet. ... However, with the existence of **Green Accounting**, the cost can be recognized as an Asset in the form of Investment of **Environmental** Social Responsibility.

History and Development of Green AccountingIn Europe this concept of green accounting has begun to develop since the 1970s, starting with Norway affected by the publication of Limits to

Growth (Meadows et al. 1972) and the growing environmental movement. Then the ministry of the environment Norway develop statistics for the measurement of natural resources as a tool to better manage natural resources. Where there is fear that their resources will be depleted due to overexploitation. Then this environmental issue also received the attention of the Danish government as a result of the oil crisis of 1977 which began to make calculations of energy reserves and savings. In the 1980s, France develop an accounting system for assessing both quantitative and qualitative situation and changes over their natural resources (Vanoli 2005-344). From the Netherlands Roefie Hueting, who develops and seeks to apply a measure of sustainable national income that takes into account changes and decreases in environmental assets caused by economic activity. If we look at efforts made at this early stage in some countries have in common where only focused on obtaining a picture of physical data from the use of natural resources. In the era of the 1990s the International Accounting Standards Committee (IASC) pengembangkan concept of international accounting principles which include the development of environmental accounting. And as industry standards increase as professional auditors grow, the American Institute of Certified Public Accounts (AICPA) issues universal principles on environmental auditing. The United Nations through the Coalition for Environmental Economies (CERES) and UNEP in 1997, issued the Global Reporting Initiative (GRI), which is a corporate reporting guide to support sustainable development. GRI which until now has been experiencing a renewal, the main content can be divided into six sections include-economic, environmental, human rights, labor practices and decent work, product responsibility, and community. Then in 2000 the Japanese Ministry of the Environment issued environmental accounting guidelines which were refined in 2002 and 2005, in which all companies in Japan were required to use environmental accounting.

In the last 20 years, sustainability reporting has gained a lot of audience as consumers exert pressure on corporations to engage in sustainable business activities. In addition, governments and regulators are demanding sustainability reporting to enhance transparency and accountability. Big global companies such as FTSE 250 have integrated sustainability as part of their business strategy. Therefore, sustainability is mandatory in contemporary business setting. According to Fauzi and Idris (2009) empirical finding reveal that corporate sustainability is linked to improved business performance. Companies that have failed to pursue sustainability are experiencing diminished business performance, this is forcing corporations to reorient and incorporate sustainability in their business activities. As a result, accountant's role has been broadened to include sustainability accounting, sustainability reporting, sustainability assurance and sustainability management. Contemporary accountants go far beyond the presentation of financial information to include non-financial information. In addition, accountants help organizations incorporate sustainability issues into strategic planning and implementation. One facet of corporation sustainability has been on environmental conservation and preservations. Corporations are adopting Environmental Management System to enable them reduce their ecological impact. Maier and Vanstone (2005, p. 2) assert that an implementation of an Environmental Management System involves the adoption of an environmental policy such as a certified Environmental Management System, ISO 14001 or Eco-management System (EMAS), or in house systems. The policy highlights the corporation's commitment to environmentally friendly business operations and environmental management. The global computer technology

giant IBM uses Environmental Management System to identify and manage operations that pose environmental impacts. The global computer technology giant monitors and measures the effective implementation of Environmental Management System to ensure improved environmental performance. The measurement systems include professional self-assessment programs, environmental performance database, corporate internal audits and ISO 14001 surveillance audits, which improve environmental performance.

Empirical Review

Greenham (2010) Awareness of environmental limits has led to a proliferation of accounting methodologies designed to measure the impact of human activity on the earth's ecological systems and resources. Such methodologies can be collectively described as green accounting, and categorised in three different ways; first, by whose actions are being accounted for; second, by the time period being considered; third, by how environment impacts are measured. Current practice tends to focus on parallel reporting with financial accounting still having greater importance. Green accounting remains largely voluntary and unaudited. The key challenges for green accounting can be summarised as first to determining the scale of change in human activity required to prevent environmental degradation and incorporating some reference to these limits within its metrics, and second to be effective in prompting the necessary behavioural change within the necessary timescale.

Simon-Oke & Awoyemi (2010) examined the influence of manufacturing capacity utilization on industrial development of Nigeria from 1976 to 2005 using co integration test and error correction model (ECM). The results indicate evidence of long run relationship among the variables such as manufacturing capacity utilization, index of industrial productivity and value added in Nigeria. The study recommended that government should rectify infrastructural inadequacies by providing infrastructural facilities and as well encourage local sourcing of raw materials and intermediate products to increase manufacturing value added and create mass employment in Nigeria. Teshome (2014) investigated the impact of manufacturing sector on economic growth in Ethiopia for the period 1980-2009 using both descriptive and econometric methods of analysis. The results indicate that manufacturing sector affect economic growth and productivity of Ethiopia positively and significantly. The results also showed that the manufacturing sector has positive impact on employment growth of Ethiopia within the period under study. On the average, the results revealed that one percent increase in manufacturing output will increase economic growth by 24 percent. More so, it was indicated in the estimation results that manufacturing sector has significant effect on labour productivity in the economy.

Thornton (2013). The first criticism is that financial reporting is premised on several assumptions and principles which hinder entities from incorporating social and environmental aspects of their operations. In fact the financial accounting conventions make it unrealistic to include the social and environmental reports in the main financial accounting report (Deegan, 2013). The argument is extended to the International Accounting Standards Board Conceptual Framework for Financial Reporting (2010) which is deemed to be actually an obstacle that blocks financial accountants from debating meaningfully about holistic reporting because it clearly states that the purpose of financial reporting is to provide financial information to current and potential

investors (Deegan, 2013). In fact the financial accounting conventions make it unrealistic to include the social and environmental reports in the main financial accounting report (Deegan, 2013). The argument is extended to the International Accounting Standards Board Conceptual Framework for Financial Reporting (2010) which is deemed to be actually an obstacle that blocks financial accountants from debating meaningfully about holistic reporting because it clearly states that the purpose of financial reporting is to provide financial information to current and potential investors (Deegan, 2013). A similar view is echoed by Negash and Lemma (2020) when he contends that financial accounting will only cater for an environmental occurrence only to the extent that it affects accounting numbers. It is argued that since its documentation in 1494 through the *Summa de Arithmetica, Geometrica, Proportioni et Proportionalita* (a book written by the Franciscan Monk, Luca Pacioli); double entry was devised for relatively smaller organisations without complex ownership structures. As a result, the principle sometimes fails to capture one-sided notional costs which arise from externalities where costs are allocated to external parties but where there is no direct outflow of resources from the entity (Deegan, 2013). In line with the double entry concept, the entity principle is also criticised.

Burritt and Schaltegger (2001) Ecology considers the interrelationships between all species and matter. It is argued that there are important direct and indirect links between accounting information and ecological effects. A direct link can be traced through identification of some of the conventional problems of accounting. An indirect link can be traced through economics. It is only comparatively recently that the link between economics and ecology has received significant attention. In particular, the relationship between economic development and environmental quality has come to the fore. The concepts of eco development, an ecologically sound economic development strategy, and of sustainable development have promoted the view that there may be positive as well as negative interdependences between economics and ecology. With this linking of economics and ecology, the next logical step is to consider possible indirect links between accounting and ecology, with economics as an intervening variable, since a link between accounting and economics has long been established. Having established these direct and indirect links between accounting and ecology, inferences for environmental accounting based on recent Australian agricultural experience are suggested. In conclusion a brief review of the implications of adopting a Deep Ecology perspective for such accountings is given.

Lamberton (2005) Research linking accounting to the emerging concept of sustainability surfaced in the early 1990s and has received continuing attention in academic and professional accounting literature. This paper tracks this brief history through to the release of the Sustainability Reporting Guidelines at the World Summit on Sustainable Development in August 2002, consolidating the various approaches into a sustainability accounting framework. The result is a comprehensive reporting model that presents an enormous challenge to business organisations, requiring a significant commitment of resources to achieve widespread implementation. Failure to meet this challenge enables business organisations to continue to avoid accountability for their continuing unsustainability. The paper concludes with a personal view as to how implementation of the sustainability accounting framework could proceed.

Cairns. (2002) Especially in developing countries, natural resources and the environment are not optimally managed. Even so, it is possible for green accounts based on current prices to measure the realized contributions of the environment to net product. The prices for use in the green accounts, however, are not necessarily shadow prices as would be recommended by cost–benefit analysis- in practice, green or comprehensive NNP is an approximation of an index of welfare. The fact that a linearization of generalized national income is used implies that disaggregated, partial-equilibrium models of resources are useful. A decade has passed since *Wasting Assets*, a study of Indonesia by Robert Repetto and colleagues at the World Resources Institute, drew widespread attention to the potential divergence between gross and net measures of national income. This was by no means the first ‘green accounting’ study. Martin Weitzman, John Hartwick, and Partha Dasgupta and Geoffrey Heal had all conducted seminal theoretical work in the 1970s. But the World Resources Institute study demonstrated that data were adequate even in a developing country to estimate adjustments for the depletion of some important forms of natural capital and that the adjustments could be large relative to conventional, gross measures of national product and investment. The adjusted, net measures suggested that a substantial portion of Indonesia's rapid economic growth during the 1970s and 1980s was simply the unsustainable ‘cashing in’ of the country's natural wealth.

Methodology

The study investigated green accounting activities and its implementations by manufacturing companies in Nigeria in relating to their financial performance. Qualitative research was adopted due to the fact that most of the Nigerian manufacturing companies do not attach financial quantities to their reports on sustainability activities. A sample of fifteen (15) manufacturing companies were investigated- (Dangote Floor mill, Dangote Cement, Cadbury,) The study used data from the central bank statistical bulletin as well as Nigeria Stock Exchange, and data were analyzed in the Statistical Package for Social Sciences (SPSS) Version 22. As well as Microsoft Excel The research hypotheses were tested using Ordinary Least Square Regression (OLSR) analysis at a significance level of .05. The results of the findings were that there is no positive linear relationship between sustainability accounting of manufacturing companies and their profitability in Rivers state.

Data Analysis

SUMMARY
OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.105307413
R Square	0.011089651
Adjusted R Square	-0.08780138
Standard Error	212.5521875
Observations	12

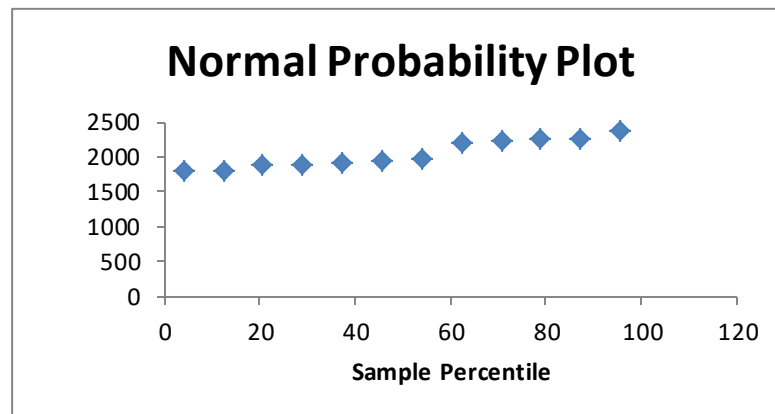
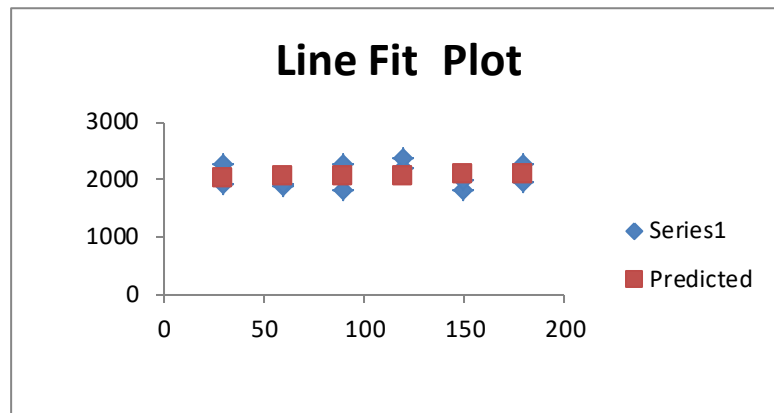
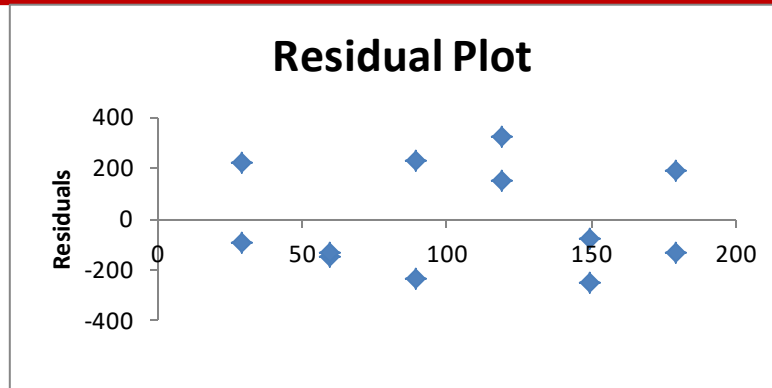
ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	5066.314	5066.314	0.11214	0.744639
Residual	10	451784.3	45178.43		
Total	11	456850.6			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1973.061333	139.919	14.10146	6.32E-08	1661.302	2284.82	1661.302	2284.82
	0.401042857	1.197596	0.334873	0.744639	-2.26737	3.069453	-2.26737	3.069453

RESIDUAL
OUTPUTPROBABILITY
OUTPUT

<i>Observation</i>	<i>Predicted</i>	<i>Residuals</i>	<i>Standard Residuals</i>	<i>Percentile</i>	
1	2009.15519	-236.195	-1.16547	4.166667	1772.96
2	2033.217762	-252.938	-1.24809	12.5	1780.28
3	1997.123905	-150.124	-0.74077	20.83333	1847
4	1985.092619	-97.8226	-0.48269	29.16667	1856.86
5	2045.249048	-136.929	-0.67566	37.5	1887.27
6	2033.217762	-78.2578	-0.38615	45.83333	1908.32
7	2021.186476	145.7835	0.719348	54.16667	1954.96
8	2045.249048	186.061	0.918092	62.5	2166.97
9	2009.15519	222.4048	1.097425	70.83333	2203.46
10	1985.092619	218.3674	1.077503	79.16667	2231.31
11	2021.186476	319.9135	1.578568	87.5	2231.56
12	1997.123905	-140.264	-0.69211	95.83333	2341.1



Conclusion and Recommendations

Green accounting is pegged on sustainability reporting most especially on the activities of manufacturing companies in the areas of waste disposal, gas emission and environmental pollution. Less of these companies engage in sustainability reporting because they do little of taking care of the environments. And because of this, their financial performance is not really integrated nor affected relatively by the environment because they have little or no response to the sustenance of the environment.

Therefore, it is recommended that manufacturing companies in Nigeria should increase their interest in protecting the environment and also endeavor to capture or quantify this interest in their financial reports so as to be able to measure it against their corporate profitability.

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