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Environmental Accounting Practices and Return on Asset of Quoted Manufacturing Companies in Nigeria

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ABSTRACT
The study investigated the effect of environmental accounting technique on the financial performance of Nigeria's publicly traded manufacturing enterprises. With the help of an ex post factor research approach, the study examined data from the Nigerian Stock Exchange from 2012 to 2019. Panel data analysis techniques such as the Fixed Effect Model, Random Effect Model, Pooled Ordinary Least Square, Hausman Test, and Wald Test were used to analyze the data. Environmental accountability has a favorable but modest effect on the return on asset, according to the study. The study indicated that environmental accounting is poorly performed in Nigeria's manufacturing sector based on the findings. As a result, it is recommended that manufacturing companies abandon business practices that are harmful to the climate, hydro resources, and forests in favor of green practices aimed at reducing, recovering, reusing, and recycling waste, thereby contributing to the overall well-being of people, society, and the planet, as well as a sustainable return on asset for the companies.
Keywords: Environmental accounting, sustainability, performance, return on asset.

INTRODUCTION

No business exists in isolation; each corporate entity is inextricably linked to its surroundings. As a result, Eliemena (2020) claims that the operational environment is responsible for 80% of a company's success. This is due to the fact that the business environment presents a variety of settings that have both enabling and inhibiting effects on operational performance as measured by return on asset. As a result, most corporate firms are being challenged to expand their financial reporting practices beyond the financial bottom line to include both efforts to profit directly from the firm's business conduct as well as efforts to improve and make good its impact on the physical environment in order to gain a competitive advantage (Elkington, 1997; Akinlo & Iredele, 2014).

The modern business operation, in the aftermath of the industrial revolution, has been forced to exploit nature's resources as a means of producing value generation for a corporation (Rappaport, 1986, cited in Perrini &Tencati, 2006).

Governments and businesses are understanding that business as usual will not work in the future because of the growing population and finite natural resources. Not only will natural resources be exhausted, but chemicals discharged into the atmosphere, water, land, and other trash as a result of the existing linear economic model are causing health issues for people and other species (Ellen Macarthur Foundation, 2012). The number and quality of environmental resources are steadily declining as the human population grows, material consumption rises, and production technology expands (Vlek & Steg, 2007). Nature fragmentation and loss of biodiversity, freshwater shortages, overfishing of the seas, global warming, extreme weather events, air pollution, water pollution, environmental noise, and absolute disregard for the immediate environment, much less the future environment, are all causes for concern. Flooding, drought, and extreme heat and cold are all unwelcome climate changes brought on by global warming, which is nearly probably caused by greenhouse gas emissions. Some countries and towns around the world, such as Port Harcourt in

Rivers State, are currently experiencing these climate shifts and disasters. The state of the Niger Delta is currently dealing with a strange soot that has sparked a regional air pollution concern.

The more concerning aspect is that Nigeria's waste generation rate is estimated to be 0.65-0.95 kg/capita per day, resulting in an annual average of 42 million tons, with plastic bottles accounting for 150,000 and solid waste accounting for 32 million tons annually, respectively, of which only 20-30 percent is collected (Iheanachor, 2021). This has free its costs.

These costs for the environment can be divided into three groups. The first group includes the monetary costs of net depletion and deterioration of natural assets (forests, air and water quality, fisheries, oil, and so on) that are directly related to present production and consuming activities (Daly, 1996). Defensive expenditures are the second type of environmental cost that must be evaluated (Daly, 1996). Defensive expenditures are actual societal costs required to prevent or mitigate environmental damage caused by the byproducts of routine production and consuming activities (Daly, 1996). Extra spending on health care for problems caused by air pollution, garbage removal and cleaning, and so on are examples of this type of expenditure.

Finally, there is the human cost. The repercussions are catastrophic not just for the present generation, but also for future generations. Nigeria's current life expectancy rate is 55.12 years, one of the lowest in the world, according to the United Nations (2021), while infant mortality is 57.701 deaths per 1000 live births. Nigeria has the highest rate of air pollution-related deaths in Africa and the globe, with 150 deaths per 100,000 people (Iheanachor, 2021).

As a result, the research determined the effect of environmental accounting on the return on assets of Nigerian quoted manufacturing companies.

LITERATURE REVIEW

Theoretical Review

Circular Economic Theory (Pearce and Turner, 1990)

Pearce and Turner coined the term Circular Economy (CE) in the context of economic policy. Since the early Industrial Revolution, writers have critically examined traditional linear economies based on consumption, based on the idea "everything is an input to everything else." Finally, they devised a new economic model known as the circular economy. Today, a circular economy based on ecology and a circular system is challenging the old economy's linear resource exploitation model. Scarcity of resources, increased extraction, rising resource prices, climate change, and shifting attitudes toward the issue are the main underlying factors for the growth of the circular economy idea (Gregson et al., 2015).

Ecological and environmental Economics and Eco-Industrial Development (EID) is thought to have spawned the circular economy concept, which proposes that a healthy economy and a healthy environment may coexist. Regardless of diverse perspectives, it is fair to argue that the concept of the circular economy emerged out of necessity, as previous business models primarily focused on economic well-being, creating an unsettling situation that necessitated a rethinking of sustainability.

The circular economy (CE) concept differs from green and/or recycling in that it proposes a proactive alternative to the current linear system of Take-Make-Dispose (Ellen MacArthur Foundation, 2015) by introducing the concept of round-put rather than throughput, in which resources are used but not depleted (Webster, 2015).

The distinguishing aspect of the circular economy is that it addresses the problem at its source and handles it during the design stage, rather than taking a reactive response at the end of a product's life cycle. It keeps the resources in the loop, as the design stage anticipates the product resource's return to the loop when the designed life cycle is completed.

The circular economy is more than simply a fancy term for recycling. Although recycling is one of the key elements, the concept encompasses a broader perspective and provides a broader approach, including resource recovery (Gregson et al., 2015), resource efficiency and effectiveness, sustainable consumption and production, systems of provision, industrial symbiosis, urban metabolism, zero waste, eco-design, materials criticality, design for recycling, and up-recycling/up-cycling/up-cycling/up-cycling/up-cycling/up- (Velis, 2015). The following definitions have been chosen to provide a core grasp of the notion of circular economy in order to appreciate its breadth and scope.

A circular economy is one that is designed to be waste-free and resilient. It is a new economic paradigm that is both ambitious and feasible. Designing the economy in a way that is eco-friendly,

innovative, and beneficial to society is a difficult task, but one that may be accomplished if the circular economy principles are followed.

Profits, jobs, and growth in a circular economy are generated not by extracting, moving, shaping, selling, and dumping ever more resources, but by the effort and value created at all times, discriminating between technical and biological cycles (Ellen MacArthur Foundation, 2015).

The circular economy is an industrial economy that is intended to be regenerative; it aims to rely on renewable energy; it limits, tracks, and hopefully criminalizes the use of harmful chemicals; and it eliminates waste through thoughtful design (Webster, 2015).

CE an is a notion that many national governments, driven by the United Nations, including as China, Japan, France, England, Canada, the Netherlands, Sweden, and Finland, as well as many worldwide enterprises, are interested in. The present economic system's traditional linear extract-produce-use-dump material and energy flow model is unsustainable. CE gives an alternate flow model to the economic system. As a result, throughout the product value chain and cradle-to-cradle life cycle, the CE strategy stresses product, component, and material reuse, remanufacturing, refurbishment, repair, cascading, and upgrading, as well as solar, wind, biomass, and waste-derived energy use (Korhonen et al., 2018).

Environmental accounting and the circular economy are mutually beneficial and produce synergy when used together. The number of organizations attempting to create new ways to contribute to the circular economy is growing, as is the use of recycled or recyclable products.

Conceptual Review

Concept of Environmental Accounting

Environmental costs are expenses incurred by businesses in order to safeguard the environment, avert environmental disasters, and reduce environmental harm. Costs paid to comply with or prevent violations of environmental laws, rules, and policies are included. The actual environmental costs to a company, on the other hand, can be much higher, including costs of resources, both those directly related to production and those used in general business operations, waste treatment and disposal costs, the costs of a bad environmental reputation, and the cost of paying an environmental risk premium (Charles et al., 2017). The expenses of repair or restoration, waste management, compliance and environmental management, employee health and satisfaction, customer perception and relationship costs, and investment financing costs are all examples of environmental costs. However, there appears to be some overlap in the cost classification for environmental costs, as some of them may be considered social in nature. The US Environmental Protection Agency (EPA) described it as costs that have a direct financial impact on a corporation (internal costs) as well as costs to persons, society, and the environment (1996)(external costs). Any activity carried out by businesses in their surroundings results in the formation of environmental expenses. These environmental costs are incurred as a result of environmental protection measures as well as the utilization of environmental resources. Another factor that contributes to these costs is the pollution that these businesses generate.

The environmental taxonomy of sustainability, sometimes known as "Planet," assesses a company's environmental responsiveness. This dimension demonstrates how important environmental best practices are to executives. It's unfortunate that these behaviors are widespread in the worldwide society but have yet to receive the attention they deserve in Nigeria. Toxic and gaseous emissions into the air, untreated home and industrial waste outflow into rivers and coastal oceans, and solid waste that must be disposed of through land spreading and incineration have all been identified as significant sources of environmental deterioration and related cost. These and other environmental difficulties are jeopardizing the planet's long-term viability, necessitating the development of all-encompassing management plans that detail how to address these issues while also instilling an internal culture of environmental conservatism. Environmental accountability thus becomes a supplementary instrument for environmental management. Environmental accountability has been defined as an activity aimed at identifying, measuring, and reporting costs associated with environmental materials and activities such as remediation and prevention of environmental degradation, as well as the use of this information for environmental decision-making (Hansen &Mowen, 2000). The goal is to assist organizations in minimizing cost and environmental risk exposure as a result of value addition. It is also defined as the process of conveying the social and environmental consequences of a firm's economic actions to a specific stakeholder group within

society as well as to the firm's broader group of stakeholders. As a result, it necessitates an accounting procedure that goes beyond the traditional accounting and reporting system for providing financial bottom line information to capital financiers, with a special focus on equity holders. Such a broad concept of accountability is based on the logical assumption that firms have a greater responsibility and function to perform than simply making economic gains for shareholders in order to satisfy the shareholders wealth maximization canon. As a result of the increased public concern about environmental issues, environmental responsible practices have gained traction among academic researchers in the accounting profession. The component of environmental accounting draws attention to two distinct challenges. When seen from a country perspective, it can be used to highlight the interaction between the environment and the nation or region, or it can be focused on the operations of companies and how they interact with the planet. In the context of this study, environmental accounting focuses on companies and other organizations, with the term referring to private entities, both listed and unlisted. The two types of information typically available from a company's environmental accounting reporting are monetary value and physical units. The physical units represent the benefits derived from environmental conservation actions or practices, while the monetary value represents the economic benefit of adopting an environmental conservation culture. As a result, this shows a relationship that demonstrates a link between environmental conservation's physical and economic benefits. Environmental conservation, for the sake of clarity, refers to the protection, preservation, management, or restoration of natural ecosystems and the ecological populations that live within them. It is widely understood to include the management of human use of natural resources for immediate public benefit as well as long-term social and environmental sustainability (journal of geography & natural disaster). To summarize, environmental accounting's role is to pinpoint, calibrate, and convey a company's activity as it relates to its environmental cost and benefit associated with environmental conservation practices, the company's financial performance expressed in financial terms, and its environmental performance designated in physical quantity (Environmental Accounting Guidelines, 2002). Environmental conservation is not only important for the protection of beautiful animals and eye-catching vegetation on the other side of the earth, but it is also necessary for our own survival. Major players' frequent use of the euphemism "there are more important matters" or "who cares" when it comes to environmental issues evokes the need to halt and consider the importance of earth protection. Agriculture is reliant on the environment, and agriculture is reliant on humans. This is a no-brainer, especially for economies that rely heavily on agricultural, such as Nigeria's. This existential truth, however, is applicable to all, regardless of the country's economic basis. It is critical to protect the ecosystem and prevent soil erosion, desertification, and flooding. Human activity has an impact on the climate, which has an impact on people's lives.

This dimension is concerned with the preservation and development of biological and ecological material resource bases, while also taking environmental issues into account to guarantee that waste does not exceed the environment's current and future capabilities. Energy, water, emissions, and materials are the four key characteristics of the environment dimension (GRI, 2013). As a result, pursuant to the principle of Apply and Explain guiding sustainability reporting in NCCG 2018, environmental accountability is quantified in this study by environmental spending (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). Ibanichuka et al. support this measure as well (2016).

Return on Asset

One of the broadest metrics of operational effectiveness is return on assets (ROA) (Derwall, 2007). It's defined as the ratio of net income to total assets, and it measures how well a company used its assets. The return on assets (ROA) refers to the assets that are used to create profit. ROA has been used in a number of recent research to investigate the relationship between sustainability reporting and operational performance (Duque-Grisales & Aguilera-Caracue, 2019; Deng & Cheng, 2019; Zhao et al., 2018). Since 1919, when the DuPont Company utilized it as the apex of its ratio triangle system, ROA has been employed in industry. Profit / Total Assets was the formula for calculating the return on investment ratio. The extended ROA formula served as the foundation of the DuPont triangle: Profit Margin (Profit / Sales) and Capital Turnover Ratio=Sales/Total Assets. The significance of ROA to educators and practitioners can be observed in three ways. For starters, most business

textbooks include at least one ROA formula. In a review of 77 business textbooks, ROA was the third most often stated ratio, appearing in 70 of them. The current ratio and inventory turnover ratio were the only two ratios that appeared more frequently than ROA. Second, failure prediction studies frequently employ at least one variant of ROA. ROA was one of the five criteria in the original Altman (1968) Z-Score, which was used to forecast business failure using a version defined as Earnings before Interest and Taxes/Total Assets (EBIT/TA). ROA was also one of the six ratios employed by Beaver (1966) to forecast corporate failure. In the Beaver research, the ROA version was Net Income/Total Assets. All financial ratios used in research predicting business failures were ranked by Hossari and Rahman (2005). Their research looked at 53 previous studies from 1966 to 2002, ranking 48 different ratios. In all of the failure prediction studies, the ROA version Net Income/Total Assets (NI/TA) was the most common ratio. Third, ROA is frequently used by analysts to assess a company's financial status, performance, and future prospects. Gibson (1987) conducted a poll of Chartered Financial Analysts to determine the significance of a variety of financial ratios. The survey comprised four alternative versions of ROA, each of which was chosen as a major indicator of profitability by at least 90% of CFA respondents.

The profitability of a company's assets in creating profits is measured by its return on assets (ROA). In other words, it shows how effective the firm's assets are at increasing the economic interest of its shareholders. It also demonstrates management's effectiveness in generating revenue from its asset. Return on Assets evaluates the efficiency of capital employed and gives a framework for investors to judge the earnings generated by a company's capital assets investment. The return on assets (ROA) is a metric that indicates how much profit has been created from invested capital. It represents the number of kobo earned for every naira worth of assets. It enables users, stakeholders, and monitoring agencies to evaluate how effective a company's corporate governance structure is at securing and motivating efficient management. The return on assets is also the ratio of a company's annual net income to its average total assets over the course of a year.

Empirical Literature Review

The impact of environmental reporting on the financial performance of listed industrial companies in Nigeria was explored by Utile et al. (2017). The study employed an ex-post facto research approach, with random effect regression analysis as the primary data analysis technique. The study's sample consisted of ten manufacturing companies listed on the Nigerian Stock Exchange. It was discovered that reporting on erosion control and air pollution has a considerable impact on firm financial performance, but reporting on waste management had a negative but significant impact on firm financial performance of the enterprises under consideration.

The impact of environmental and social expenses on the performance of Nigerian manufacturing enterprises was investigated by Agbiogwu et al. (2016). Secondary data was obtained from the annual reports and financial summaries of ten (10) randomly chosen enterprises in 2014. For the analysis of the acquired data, the study employs SPSS version 20's t-test. The results of the analysis reveal that the sample companies' environmental and social costs have a considerable impact on their net profit margin, earnings per share, and return on capital employed.

On the website, Juhmani (2004) investigates corporate social and environmental transparency. The focus of this research was on company and website information disclosure. According to the findings of the researcher's historical research methodology and secondary data survey, 57.57 percent of sampled publicly traded firms supplied social and environmental information in their 2012 annual reports and websites.

Okoye and Ezejiofor (2013) examined the role of sustainability environmental accounting in improving company productivity and economic performance by reviewing a variety of sources, including journal papers, publications, and other relevant material. The research, which looked at and tested dual tentative statements, found that sustainable environmental accounting had a considerable impact on organizational productivity and growth.

Adediran and Alade (2013) employed a sample size of fourteen (14) randomly selected listed businesses to investigate the impact of environmental and social accounting on corporate performance in Nigeria. The information was gathered using a secondary data gathering approach and analyzed using a regression analytical technique. The discovery was that environmental accounting has a

negative association with return on capital employed and earnings per share (EPS) on one hand, and a substantial link with net profit margin cum dividend per share on the other (cum DPS)..

Norhasimah et al. (2015) investigated the impact of environmental disclosure on public limited firms' financial performance in Malaysia. The sample size of 100 publicly traded firms for 2011 was determined using a purposive sampling technique. The researcher used secondary data from the companies' audited yearly financial accounts. Performance was measured using return on asset (ROA), earnings per share (EPS), and return on equity (ROE). When the data was analyzed using Spearman's correlation and multiple regression, it was shown that there is a substantial association between overall environmental disclosure and financial performance.

In Nigeria, Igweonyia (n.d.) examined the relationship between environmental accounting and reporting and long-term development. For data analysis, the Z-Test distribution was used, and it was discovered that there is a significant relationship between environmental accounting and reporting and sustainable development; that environmental accounting encourages organizations to track their GHG emissions and other environmental data against reduction targets, and that noncompliance with env accounting has consequences. Acceptable standards, such as the International Standard of Accounting Reporting (ISAR), should be recognized, and graphical indicators should be used to show users on a regular basis whether the organization is performing above, below, or in line with the targets, so that corrective actions can be taken as needed to successfully implement sustainability initiatives.

Iliemena (2020) looked on the impact of environmental accounting procedures on the financial performance of Nigerian listed oil and gas businesses from 2012 to 2018. This was accomplished by formulating hypotheses that were then tested using data from stock exchange fact books, corporate sustainability reports, and annual reports of sample companies. The study used an ex-post facto research strategy, with basic linear regression as the analysis method. Environmental accounting methods and accounting have considerable beneficial effects on both turnover and return on capital employed, according to the findings, whereas the effect on net profit, while favorable, was minor. Environmental accounting has a strong favorable effect on the corporate performance of practicing organizations, according to our findings. As a result, it is advised, among other things, that businesses expand their management accounting and financial reporting systems to include environmental accounting as a means of guaranteeing long-term economic viability.

In 2016, Ibanichuka et al. analyzed the triple bottom line accounting and financial performance of Nigerian oil businesses. The research was based on the financial statements of nine oil and gas businesses listed on the Nigerian Stock Exchange over a ten-year period. The data was analyzed using regression. Triple bottom line accounting was discovered to have a favorable and significant association with financial performance.

Environmental accounting, according to Mehenna and Vernon (2004), is an important part of company strategy. This research focuses on a paper that examines the confluence of environmental and commercial policies. The report discovered that the business firm's strategy comprises responding to pollution control equipment's capital and operating expenditures. Increased public concern about environmental issues, as well as a recent government-led trend toward incentive-based regulation, are to blame.

Schneider et al. (2013) assessed the maturity of environmental, health, and safety (EHS) activities in the oil and gas sector, as well as progress toward sustainability. Ten major oil firms were investigated using publicly available data, including their annual reports. When reporting their performance, companies mention voluntary initiatives, but the assessment reveals that the sector as a whole is making progress and maturing in its sustainability efforts. Many management system weaknesses were discovered, leaving enterprises in this industry far from sustainable production and EHS management leadership. The majority of businesses continue to use trailing indicators, which is evident in the actions they undertake. The sector's EHS management maturity is judged to be high middle/medium, yet there are considerable performance gaps. This signifies that the industry has progressed from simply accepting sustainability to committing to tackling sustainability challenges, but there is still work to be done, notably in terms of Clean Air Act compliance, spill and process management.

Okoye and Ezejiofor (2013) looked at the role of environmental accounting in improving company performance and economic growth. This research looked at a variety of items, including journal publications, articles, and other pertinent information. The Pearson Product Movement Correlation

Co-efficient was used to evaluate and test two hypotheses in this article. In order to boost corporate growth, the study discovered that sustainable environmental accounting has a considerable impact on company productivity.

Ijeoma (2015) investigated the function of environmental cost accounting in ensuring Nigeria's environmental sustainability. This study's data comes from a main source of data gathering via a questionnaire. The survey instrument was distributed at random to 200 Nigerian respondents from the following industries: Agricultural/Agro-Allied, Breweries, Chemicals and Paints, Health Care/Pharmaceutical, and Oil Marketing. The majority of respondents felt that business organizations in Nigeria are unaware of environmental policies, according to the study's findings. It was also discovered that there is no substantial difference in the number of Nigerian business groups that are unaware of environmental policies.

Onyali et al. (2015) investigated the scope, nature, and quality of industrial enterprises' environmental information disclosure procedures in Nigeria. The annual report of the selected firms was analyzed using content analysis in order to determine their environmental disclosure procedures. In addition, a survey was conducted to determine whether Nigerian firms' environmental disclosure policies have improved. This was accomplished using a questionnaire that was distributed to 40 chartered accountants. In order to assess the hypothesis, the researchers used a one-sample t-test. According to the study's findings, Nigerian companies' environmental disclosure methods are still ad hoc and contain little or no measurable data.

METHODOLOGY

Ex-post factor design was used by the researcher. It is employed in retrospect when the researcher is looking for potential and reasonable linkages and impacts of changes in the independent variables on the dependent variable, according to Ibeaja (2012). The study's population consists of all publicly traded manufacturing companies on the Nigerian Stock Exchange. From 2012 to 2019, a sample size of ten (10) listed manufacturing businesses on the Nigerian Stock Exchange was purposefully selected. The decision of the selected firms is based on the fact that they are manufacturing companies that are among Nigeria's top thirty (30) capitalized companies (Society for Corporate Governance Nigeria, 2017). This indicates that they are industry leaders and important players. It is thought that their actions have a greater social impact, as seen by their financial accounts. As a result, the findings from the sampled businesses can be applied to the entire population. Environmental accountability was measured operationally by environmental spending. On the other hand, net profit was calculated by dividing net profit by total asset. The sustainability reporting template of the Nigerian Code of Corporate Governance by FRCN (2018) supported by SEC informed the choice of these measures. The principle of "apply and explain," also known as "principle based," guiding IFRS and the sustainability reporting template of the Nigerian Code of Corporate Governance by FRCN (2018) was employed. The regression model used by the researcher is a Fixed Effects Model, a Random Effects Model, and a Pooled Ordinary Least Square (OLS) model with panel data. The researcher used the Hausman and Wald tests to choose the best appropriate regression model with the maximum explanatory power that is better suited to the data set used in the study, which is a balanced panel.

Model Specification

With respect to the study variables, the following representations or denotations were constructed. Environmental accountability is one for the predictive variable (EnA). Return on Assets is one for the criteria variable (ROA).

The researcher began by stating the functional relationship between the explanatory and response variable, which was as follows:

ROA=f(EnA,)……....1

Because it lacks an error term and a constant, the given model is incomplete. To circumvent this, the researcher uses a regression model to rewrite the aforementioned equations in econometric terms.

The regression model is thus stated as: $Yit = \alpha 0 + \beta 1xit + \mu it$. Where: yit is the criterion variable, α is Constant term for the criterion variable and μ the random disturbance term. Xit are the predictor variables with β as the regression coefficients for the independent variables.

This study operationalizes the variables as follows in order to improve the model based on the nature of the data:

$ROA_{it} = \alpha_0 + \beta_1 SoA_{it} + \mu_{it}$. .....2.

Apriori Expectation

The apriori expectations for this study are projected as follows:$\beta_1 > 0$(i.e. in each of the models), which means that:$\beta_1 > 0$: implies that environmental accountability is estimated to have a positive effect on ROA.

Decision Rule: Reject the null hypothesis if the P-value is less than 0.05. Consequently the alternative hypothesis becomes acceptable. EView 10.0 was used for the data analysis.

RESULTS AND DISCUSSIONS

The presentation of data, analysis, and discussion of conclusions are all addressed in this chapter. The study looked into the effect of environmental accounting on the return on assets of publicly traded manufacturing companies in Nigeria, as previously stated.

Data Analysis

Unit Root Test for Stationary Using Augmented Dickey Fuller

The presentation of data, analysis, and discussion of conclusions are all addressed here. The study looked into the environmental accounting on the return on assets of publicly traded manufacturing companies in Nigeria, as previously stated.

Table 1: Unit Root Test Results Presentation

Variables	P-Value	Unit ROOT At	ADF Result	Decision	Remarks
ROA	0.0000	Level form	-8.11056	Reject	Stationary
EnA	0.0000	Level form	-53.0911	Reject	Stationary

Under this test, the null hypothesis is that the series has a unit root. From the table 1 above, for ROA, since the P-value of 0.0000 with ADF result of -8.11056 is less than 0.05, the null hypothesis is rejected. Meaning that ROA is stationary at level form.

For EnA, since the P-value of 0.0000 with ADF result of-53.0911is less than 0.05, the null hypothesis is rejected. Meaning that EnA is stationary at level form.

Descriptive Analysis and Preliminary Tests

For the measures of central tendency, in table 2. ROA has a mean of 6.532658, median of 5.900000, standard deviation of 4.663992, skewness index of 0.874641. EnA shows a mean of 2369618, a median of 229141.0, and standard deviation of 5293062, for the measures of normality**,** kurtosis measures the peakness and flatness of the distribution of the series. In the table 2 below, ROA has a Positive Kurtosis of 3.386. It is Leptokurtic. EnA has a kurtosis of 7.467175. Skewness measures the asymmetry of the series**.** Normal skewness has a 0 skew which its distribution is symmetric around its mean.

Therefore in table 2, ROA has a positive skewness (0.8748). This mirrors a normal distribution. EnA has a skewness of 2.450758.

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. ROA has a Jargue Bera of 10.56297 and p-value of 0.005085. This implies that the null hypothesis will be rejected. EnA shows a Jargue Bera of 144.7692 and p-value of 0.000000. The null hypothesis will also be rejected. The null hypothesis of Jargue Bera will be rejected since p-value is less than 0.05.

Table 2: Descriptive Statistics Result

	ROA	ENA
Mean	6.532658	2369618.
Median	5.900000	229141.0
Maximum	20.29000	20691448
Minimum	0.390000	0.000000
Std. Dev.	4.663992	5293062.
Skewness	0.874641	2.450758
Kurtosis	3.386030	7.467175
Jarque-Bera	10.56297	144.7692
Probability	0.005085	0.000000
Sum	516.0800	1.87E+08
Sum Sq. Dev.	1696.720	2.19E+15
Observations	79	79

Test of Hypothesis

$H_{o1:}$ Environmental accounting does not have any significant effect on return on asset of quoted manufacturing firms in Nigeria**.**

The Wald test conducted on the outcome of the Hausman test, revealed that Pooled OLS is a better model.

Table 3: Pooled OLS Model

Dependent Variable: ROA
Method: Panel Least Squares
Date: 07/20/21 Time: 14:47
Sample (adjusted): 2013 2019
Periods included: 7
Cross-sections included: 10
Total panel (unbalanced) observations: 68
ROA= C(1) + C(2)*D2+ C(3)*D3 + C(4)*D4 + C(5)*D5 + C(6)*D6 + C(7)*D7
+ C(8)*D8 + C(9)*D9 + C(10)*D10 + C(11)*ENA

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	9.569938	1.875932	5.101430	0.0000
C(2)	-9.826730	7.346887	-1.337536	0.1866
C(3)	-6.471822	2.193641	-2.950265	0.0047
C(4)	-7.308061	2.736958	-2.670140	0.0099
C(5)	-4.600712	2.276569	-2.020898	0.0482
C(6)	-4.537174	2.281446	-1.988728	0.0517
C(7)	-2.516916	2.276790	-1.105467	0.2738
C(8)	-5.081465	2.276746	-2.231898	0.0297
C(9)	-6.464334	2.128421	-3.037149	0.0036
C(10)	-3.997829	2.222679	-1.798653	0.0776
C(11)	4.20E-07	4.41E-07	0.952480	0.3450

R-squared	0.409826	Mean dependent var	5.886912
Adjusted R-squared	0.281061	S.D. dependent var	4.023870
S.E. of regression	3.411850	Akaike info criterion	5.462565
Sum squared resid	640.2396	Schwarz criterion	5.886882
Log likelihood	-172.7272	Hannan-Quinn criter.	5.630692
F-statistic	3.182743	Durbin-Watson stat	1.309402
Prob(F-statistic)	0.001668		

ROA= C(1) + C(2)*D2+ C(3)*D3 + C(4)*D4 + C(5)*D5 + C(6)*D6 + C(7)*D7
+ C(8)*D8 + C(9)*D9 + C(10)*D10 + + C(11)*ENA

EnA has a coefficient of 4.2×10^7 and a p-value of 0.3450. This means that EnA does not have a significant effect on the ROA since the p-value is greater than the 0.05.

The R-Square value which determines the fitness of the model is 0.409826 (40.9%). This implies that the independent variable has 40.9% effect on the dependent variable.

DISCUSSION OF FINDINGS

The study examined the effect of sustainability accounting practices on financial performance of quoted manufacturing companies in Nigeria. To accomplish this mission, the study adopts three predictor variables against three criterion variables. The predictor variables include social, environmental and economic accountability, while criterion variables are return on assets, return on equity and earnings per share. The study follows a systematic and logical process in analysing and discussing the findings of the hypotheses formulated by the adoption of panel data analysis techniques with three models designed to capture the variables of study.

Environmental accountability has a coefficient of 4.2×10^7 and a p-value of 0.3450. This means that environmental accountability does not have a significant effect on the return on asset as indicated by

the null hypothesis because the p-value is more than 0.05. This is supported by Ijeoma (2015) who found that there exists no significant difference on business organizations in Nigeria not being environmentally answerable. The R-Square value which determines the fitness of the model is 0.409826 (40.9%). This implies that the independent variables social, environmental and economic disclosure have 40.9% effect on the dependent variable, return on asset. Onyali et al. (2015) findings indicated that the environmental disclosure practices of firms in Nigeria is still ad hoc. This findings is in consonant with the findings of KPMG (2011) that suggested that 68 percent of companies in Nigeria practice sustainability accounting at some level. However, in the reporting quadrant, they are classified as "start behind". This may be due to short-termism occasioned by lack of strategic direction. This accounts for why the contribution of the manufacturing sector to GDP has been poor. In 2012 it was 4.16% and stands at 6.8% in July 2014 (Business Day, 2014). In 2019, the Nigerian manufacturing sector output contributed about 11.52% to her GDP (World Bank, 2021).

CONCLUDING REMARKS

In light of the findings of this study, which demonstrated that the predictor factors have a statistically negligible but beneficial effect on the criterion variables. Environmental accounting methods at industrial companies in Nigeria are still in their infancy, according to the report, and consequently have little impact on their return on assets. According to the findings and conclusions of this study, manufacturing companies in Nigeria should prioritize environmental accountability by not only following the letters of international environmental best practices, but also investing in technologies that ensure the protection of natural citizens such as deep sea fish stocks, hardwood timber forests and the people for a sustainable return on asset of manufacturing businesses.

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