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Effects of Environmental Disclosure on Financial Performance of Manufacturing Companies in Nigeria

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Abstract

The study focused on the effect of environmental disclosure on financial performance of manufacturing companies in Nigeria. The research adopted the ex-post facto research design. The study population comprised of all 43 manufacturing Companies on the Nigerian stock exchange. The study made use of secondary data which was extracted from the annual reports and account of the manufacturing companies for the years 2017 to 2023. Data was analysed using multiple regression technique. Findings showed that environmental disclosure has a positive and significant effect on firm performance. Based on the findings, the study concludes that companies that prioritize environmental transparency are better positioned to enhance their financial performance. The study therefore recommended that there is need for companies to integrate sustainability reporting into their long-term strategic planning to prevent fluctuations in environmental disclosure practices. This can be achieved by adopting internationally recognized frameworks such as the Global Reporting Initiative (GRI) or the Sustainability Accounting Standards Board (SASB) to ensure consistency and comparability in environmental disclosures across time and industries.

Keywords: Corporate responsibility, Environmental disclosure, Financial performance, Manufacturing companies, Sustainability reporting.

Introduction

Financial performance is a critical consideration for every profit-making company which is the bottom line for assessing the goals set. It is used to measure company's overall financial health and balance over a given period of time. Furthermore, it is the process of measuring the results of a company's policies and operations in financial terms. In broader sense, financial performance refers to the degree to which financial objectives are being met. Financial performance has attracted considerable academic and professional discourse because the overall financial performance of various firms including banks, among other institutions, determines to a large extent the economic performance of Nigeria. The market- based measures of financial performance (price to earnings ratio, earnings yield and dividend yield) are considered as proxies for banks financial performance. It is the process of measuring the results of a company's policies and operations in financial terms (Olasupo & Akinselure, 2017). In every organizational context, performance and production are measured to determine the capability and growth of a business enterprise within a given period of time.

The performance of an organization is now being judged not only on the basis of its financial results, but also with regards to its contribution to protect and improve environment. Thus, environmental disclosure has become an important variable in the models used by the investors and creditors, to determine the risk associated with their investment. As a result, accounting of environmental issues and the disclosure of such issues with their associated cost in the annual reports or by other medium has become an important part of corporate accounting and reporting system.

Environmental issues have increasingly drawn the attention of the world at different levels, and corporate social and environmental responsibility has become a major contemporary focus of business, government and community attention globally (Okpala & Iredele, 2018). However, the increase has largely influenced business to engage in environmental management and practice including environmental reporting, Environmental accounting and reporting has become one of the major issues that organisations grapple with on daily basis. The turn of events in corporate sustainability and growth has brought about demands for stakeholder-based accounting and reporting. The success of every corporate organisation is dependent mostly on its operational environment as no business can survive without the environment. The role of the environment and its proven immense contribution to

the continued success of corporate organisations, have necessitated the concept of environmental accounting as part of corporate accounting system (Wen & Zhou, 2017). Furthermore, Adegboyegun, Alade, Ben-Caleb, Ademola, Eluyela, and Oladipo opined that environmental accounting is the effort of accounting standard setters, professional organizations and governmental agencies to get corporations to participate proactively in cleaning and sustaining the environment and to describe fully, their environmental activities in either their annual reports or stand-alone environmental disclosure.

The performance of an organization can however be judged not only on the basis of its financial results, but also with regards to its contribution to protect and improve its environment. Thus, environmental disclosure has become an important variable in the models used by the investors and creditors to determine the risk associated with their investment. As a result, accounting of environmental issues and the disclosure of such issues with their associated cost in the annual reports or by other medium has become an imperative part of corporate accounting and reporting system (Okwuosa & Amaeshi, 2017).

Environmental disclosure practice has grown significantly over the last years, especially in developed countries (Morros, 2016). However, environmental disclosure is still weak and evolving in developing countries including Nigeria. A survey made by Price-Water House Coopers (PWC) in 2019, revealed that most investors are dissatisfied with current environmental reporting practice and are seeking improved sustainability disclosures. In regard to this, companies have a pressing need to provide more reliable information about their environmental disclosure in their annual reports. Companies are very conscious of involvement of controversial events that may damage the company's reputation and goodwill in the market, and on the other hand negatively affect the financial, market performance and sustainable growth of the company. The understanding that being socially and environmentally responsible, can facilitate long-term growth goals, raise productivity and optimize both stakeholders and shareholders' value. This has made sustainability issue a major problem for business of all size or age to preserve capital for future generations (Nor, Bahari, Adnan, Qamaral, Kamal & Ali 2016). Thus, the study aims at examining the effects of environmental disclosure on financial performance of manufacturing companies in Nigeria for the period of 2017 to 2013,

Literature Review

Environmental Disclosure Reporting

The concept of environmental disclosure reporting gained greater publicity right from the United National Conference on Environmental and Development (UNCED) held in Rio de Janeiro in June 1992. Environmental disclosure is an environmental

management strategy to communicate with stakeholders. Environmental disclosure is as well commonly regarded as corporate social responsibility reporting (Ezeagba, John-Akemelu, & Umeoduagu, 2017). It can also be defined as the provision of public and private information, financial and non-financial information, and quantitative and non-quantitative information regarding to the organization's management of environmental issues. This information is provided in the annual report or in any other form, most of the time a separate environmental report is issued (Eluyela & Ilogho 2016). This separate environmental report is often referred to as "environmental policy report". The World Business Council for Sustainable Development (WBCSD) has helped in providing this definition of environment policy reports. Public reports by companies to provide internal and external stakeholders with a picture of corporate position and activities on economic, environmental and social dimensions. In short, such reports attempt to describe the company's contribution toward sustainable development (WBCSD, 2002).

An international survey of environmental reporting on the 100 largest companies by revenue from a sample of 2200 firms in 22 countries concluded that, nowadays, environmental reporting is widely adopted by organizations, as the 80 percent of the world's largest company's issues stand-alone reports. The Association of Chartered and Certified Accountants (ACCA), described environmental disclosures as a mixture of narratives, including objectives, explanations and numerical data, such as the amount of pollution, resources consumed for a specific accounting period on the environmental effect of a company. Environmental Disclosure is a formal statement that defines the environmental burden and efforts of an organization, including the objectives of the company, environmental policies and impacts regularly reported and released to the public (Ezejiofor & Erhirhie, 2018).

Environmental accounting, in terms of moral, economic, legal, ethical and discretionary standards is best defined as the achievement or perception of the achievement of the desired ends of society (Falola, Alasia & Udochukwu, 2018). Environmental performance is an asset that produces future rewards. It is the product of a competitive mechanism through which businesses signal to constituents their main characteristics with regards to their social standing. The primary purpose of environmental disclosure is to examine and incorporate in the firm annual reports, issues that bother on environmental hazard that are not taken cognizance of traditional or conventional accounting function which stakeholders can use for decision making. Disclosure of corporate environmental activities stressed the necessity for a close monitoring of natural resources and the corporation's harmful effect on the society where it is operating. Environmental effects caused by activities of firms especially

those in the manufacturing, oil and gas and banking include pollutions like noise, waste, hazardous emission, spillages, degradation (Solikhah, Wahyudin, Yulianto & Fathudin, 2018). In recent years, a belief has arisen in businesses and in society that reporting has a wider role than that expressed in the traditional 'stockholders/shareholders' perspective.

Importantly, one need not hold to the 'deep green' end of the argument that: there are strategic reasons why a wider view of accountability may be held and initiatives such as environmental reporting may be supported; environmental consequences of an organisation's inputs and outputs. Inputs include the measurement of key environmental resources such as energy, water, inventories (especially if any of these are scarce or threatened), land use, etc. Outputs include the efficiency of internal processes (possibly including a 'mass balance' or 'yield' calculation) and the impact of outputs. These might include the proportion of product recyclability, tones of carbon or other gases produced by company activities, any waste or pollution (Erlingsson & Brysiewicz 2017).

Corporate Environmental Disclosures

Corporate environmental disclosures can be defined as an umbrella term that describes various means by which companies disclose information on their environmental activities to users. Corporate environment disclosure as the reporting by corporation on the social impact of corporate activities, the effectiveness of corporate social programs, as a way corporation's discharging of its social responsibility and the stewardship of its social (Akinmoladun, 2018).

The main reason for incorporating environmental information within the annual reports is to increase stakeholders' awareness of the company's activities, performance and interactions with the environment. It is hoped that stakeholders might use the information to assist their decision-making process. Among the means of disclosing environmental information include newsletters, press release, magazine and corporate booklets but the usage of annual reports has grown and this practice has grown with the introduction of "stand-alone" environmental reports (Morros, 2016).

Disclosure entails the release of a set of information relating to a company's past, current and future environmental management activities, performance and financial implications. It also comprises information about the implications resulting from corporate environmental management decision and actions. They include issues such as expenditures or operating costs for pollution control equipment and facilities, future estimates of expenditures or operating costs for pollution control equipment and facilities. These may also include sites restoration cost, financing for pollution control

equipment or facilities present or potential litigation, air, water, or solid waste releases; description of pollution control processes or facilities, compliance status of facilities; among others (Anwer, 2021). By environmental disclosure, it meant all the information that the company communicates to its stakeholders about its environmental concerns.

Concept and Principles of Environmental Accounting

Environmental accounting covers information relating to all aspects of the environment. It includes environment-related expenditure, environmental benefits of products and details regarding sustainable operations. According to the world conservative union consumption of natural capital - the depletion of natural capital - forests, in particular is accounted for as income. Thus, the accounts of a country which harvests trees very quickly will show quite high income for a few years, but nothing will show the destruction of a productive asset, the forest. Whereas in accordance with conventional business accounting principles, the gradual depletion of physical capital-machines and other equipment are treated as depletion rather than income. However, most experts on environmental accounting agree that the depletion of natural capital should be accounted for in the same way as other productive assets (Adbullah 2018).

Environmental accounting is an inclusive field of accounting. It provides reports for both internal uses, generating environmental information to help make management decisions on pricing, controlling overhead and capital budgeting, and external use, disclosing environmental information of interest to the public and to the financial community. Environmental Accounting enables organizations to track their environmental data and other greenhouse gas (GHG) emissions against reduction targets, and facilitates environmental reporting to provide sustainability related data that is comprehensive, auditable, and timely to advance and strengthen the interdependent and mutually reinforcing pillars of sustainable development - economic development, social development and environmental protection in Nigeria (Ahmed, Waseer, Hussain & Ammara 2018). The consciousness and need to protect the environment will make for environmental costs to be identified, accurately measured and reported. The term environmental cost does not only refer to costs paid to comply with regulatory standards, costs which have been incurred in order to reduce or eliminate releases of hazardous substances but all other costs associated with corporate processes which reduce adverse effect on the environment.

Green Accounting or Environmental Accounting is defined as: ‘identifying and measuring the costs of environmental materials and activities and using this information for environmental management decisions. It is the generation, analysis

and use of monetarized environmentally related information in order to improve corporate environmental and economic performance. Its purpose is to recognize and mitigate the negative environmental effects of activities and systems (Yahaya, 2018). In his opinion, environmental accounting does not only focus on internal and external environmental information but links environmental and financial performance more visibly. Environmental accounting assists in getting environmental sustainability embedded within an organization's culture and operations. It provides decision makers with the information that enable the organization to reduce costs and business risks and to add value (Kewo & Mamuaya 2019).

Companies are expected to engage in environmental accounting to:

i. reassure consumers that they take their responsibilities seriously.
ii. comply with national guidelines.
iii. comply with financial reporting requirements and
iv. express the company's environmental concerns and communicate them to a range of stakeholders.

In order to understand the rationale behind environmental reporting, and the basis on which such reporting operates, it is necessary therefore to consider the principles upon which environmental reporting operates (Lateef & Omotayo 2019).

There are three basic principles of environmental reporting as identified and it includes:

i. ***Sustainability*****:** Sustainability is concerned with the effect which action taken in the present has upon the options available in the future. If resources are utilized in the present, then they are no longer available for use in the future. This is of particular concern, if the resources are finite in quantity. Thus, raw materials of an extractive nature, such as coal, iron or oil are finite in quantity and once used, are not available for future use. At some point in the future therefore, alternatives will be needed to fulfill the functions currently provided by these resources. These may be at some points in the relatively distant future but of more immediate concern is the fact that as resources become depleted, the cost of acquiring the remaining resources tends to increase and hence the operational costs of organisations tend to increase. The principle of sustainability in environmental reporting therefore implies that society must not use resources more than it can regenerate. This can be defined in terms of carrying capacity of the ecosystem and described with input-output model of resource consumption (Momani, 2020).

ii. ***Accountability*****:** Accountability is concerned with an organization recognizing that its actions affect the external environment and therefore assuming responsibility for the effect of its actions. This principle therefore implies a quantification of the effects of actions taken, both internal to the organization and external. More specifically, the principle implies that reporting of those quantifications to all parties affected by those actions. This implies a reporting to external stakeholders of the effects of actions taken by the organization and how they are affecting those stakeholders. The principle therefore implies recognition that the organization is part of a wider societal network and has responsibility to that entire network rather than just to the owners of the organization. Accountability, therefore necessitates the developments of appropriate measures of environmental performance and reporting of the actions of the firm. This necessitates costs on the part of the organization in developing, recording and reporting such performance and to be of value, the benefit must exceed the cost. Benefit must be determined by the usefulness of the measure selected to the decision-making process and by the way in which they facilitate resource allocation, both within the organization and with other stakeholders (Moses, Ofurum & Egbe, 2016).

iii. ***Transparency*****:** Transparency as a principle in environmental reporting, means that the external impact of the actions of the organization can be ascertained from organisations reporting and pertinent fact are not disguised within that reporting. Thus, all the effects of the actions of the organization, including external impact, should be apparent to all from using the information provided by the organization's reporting mechanisms. Transparency is of particular importance to external users of such information as these users lack the background details and knowledge available to internal users of such information. Transparency therefore can be seen to follow from the other two principles and equally can be seen to be a part of the process of recognition of responsibility on the part of the organization for the external effect of its actions (Grigoris, George, Eleni & Xanthi, 2016).

Financial Performance

Financial performance of a firm is reflected in its corporate success. It involves the use of organization assets to generate revenue. Financial performance enables management to give account of their stewardship to shareholders on firm profitability, value and firm growth (Nguyen & Tran, 2019). Financial performance is the extent to which organization objectives and policies have been achieved in monetary term.

Company is assumed to be performing if it is able to meet its obligations as at when due. In accounting literature, financial performance of firms has been measured as firm growth, size of the firm, firm's profitability or market share. Firm's size is often measured as Total Assets; profitability as Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin, Earnings Per Share, Gross Profit Margin or Profit After Tax.

Financial performance is commonly used as an indicator of a firm's financial health over a given period of time. The financial performance of a firm can be defined or measured in various different ways including profitability, gauge return, market share growth, return on investment, return on equity and liquidity. Financial performance was measured by the development of revenues and profits (Alok, Nikhil & Bhagaban 2018). Financial performance in broader sense refers to the degree in which financial objectives have been accomplished. It measures how well a company has fared in monetary terms and its overall financial health for a particular period. Financial performance is a subjective measure of how well a firm utilizes its assets from its business operation to generate profit (Onyali & Tochukwu, 2018). However, financial performance is used to predict the financial well-being of a company, over a period of time. This can be measured in different ways such as Return on Capital Employed (ROCE), Return on Asset (ROA), Return on Equity (ROE) and Markets Share Growth. Furthermore, revenue development can be seen as a growth indicator of the firm and also as a competitive strategy for consecutive firms. A firm can, by being environmentally sustainable, differentiate its products and thus increase its revenue. Similarly, a firm can save costs on resources, regulatory costs, capital and labour and therewith increase its profits (Bednárová, Klimko & Rievajová 2019). In this study, financial performance will be measured by, Net Profit Margin (NPM), Return on Assets (ROA) and Return on Equity (ROE).

Net Profit Margin (NPM)

Net Profit Margin (NPM) is basically one of the ratios used to demonstrate a company's ability to generate net income. Net profit margin is the ratio between net income and sales. This ratio is one of the important ratios for operational managers, because this ratio is able to reflect the sales pricing strategy that the company will apply. This ratio is also able to control the operating expenses. To calculate the net profit margin, divide the net income by total sales revenue. The result is the **net** profit margin which can be multiplied by 100 to get a percentage.

Net Profit Margin (NPM) = (Net Profits ÷ Net Sales) x 100

Return on Asset (ROA)

Return on assets (ROA) is a ratio that describes the assets measured by sales volume. The greater this ratio will be better for the company. This means that the rate of return will be greater (Diantimala, 2018). The greater the ROA, the higher the profits generated by the company, so that investors will buy more shares of the company. It was stated that return on assets shows the number of profits earned relative to the level of investment in total assets. To calculate ROA the following formula can be used.

Return on Assets = Net Income ÷ Total Assets

The higher this ratio means the company is more effective in utilizing the assets to generate net income. Thus, higher ROA means the company's performance is more effective because the rate of return will be greater. This will further increase the company's attractiveness to investors. Increased attractiveness of the company causes the company increasingly in demand by investors because it can provide great benefits (return) for investors. In other words, ROA will have an effect on stock returns that will be accepted by investors.

Manufacturing sector is one of the backbones of the economy of any country. It facilitates the achievement of sustained economic growth through provision of goods which serve the needs of citizens of the country. It enables investment by making use of available resources or funds from investors efficiently for productive business opportunities. Manufacturing companies occupy strategic and important position in the economic activities of Nigeria due to provision of necessary materials for both individual and corporate consumptions. Therefore, manufacturing companies' performance had attracted considerable academic and professional discourse because the overall financial performance of various firms determine to a large extent, the economic performance of Nigeria.

Financial performance is a factor that enables company management to flexibly report on its social and environmental responsibilities. Companies that have high profits can allocate their expenses to many aspects, including involvement in environmental issues. Very profitable companies are more trusted by the public to increase stakeholder accountability expectations. When companies are more involved in social activities, they will have more information to disclose. The measurement of corporate environmental aspects, such as the greenhouse effect, tends to significantly increase company spending. Environmental disclosure also entails high costs, including the costs of identifying, measuring, and reporting this information (Iredele 2020). Therefore, only companies with high financial performance are willing to bear the costs. Financial performance, which is often represented by profitability, affects

corporate social responsibility (CSR). If the company makes a profit, the company will allocate its funds for CSR activities. The allocations of funds for CSR activities will certainly make the company have a CSR program and enable disclosures. Environmental programs are part of the CSR program. Profitability is one of the characteristics of a company that significantly makes companies to disclose their social and environmental responsibility initiatives (Okafor 2018).

Financial performance consists of the financial health of an organization and is merely used to compare firms from one industry to the other. Financial performance is usually measured using financial ratios. Financial measures are influenced by non-financial measures. Performance can be divided into financial and non-financial performance. Above all, financial performance is the "degree to which financial objectives are met", that is assessing a firm's policies and operations in monetary terms (Schrempf-Stirling, Palazzo & Phillips, 2016). The three most important decisions in a firm are: investment, financing, and dividend decisions, and are all related to firm performance.

Theoretical Review

This study is anchored on Legitimacy Theory. Legitimacy theory is central to the social contract which can be implicit and explicit. It is a generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values and definitions (Panda & Leepsa 2017). Legitimacy theory offers a powerful mechanism for understanding voluntary social environmental disclosure made by organizations and that this understanding would provide a vehicle for engaging a critical public debate.

The Legitimacy theory states that it is the moral obligation of companies to meet the expectation of the societal members and if company fulfills the expectation of the whole society, then it would be treated as legitimate otherwise its legitimacy would be at risk (Ahmad, 2004). So, organizations are expected to respond to the changing expectations of the society to maintain their legitimacy. First, the company can adopt those goals, value and operations which are consistent to existing legitimacy definition. Secondly, it can use the communication strategy to legitimize its present practice by influencing legitimacy definition. Finally, the company can use communication strategy to be known with those symbols (e. g. ISO 14000, ISO 9000 standards).

The Legitimacy theory argues that organizations seek to ensure that they operate within the bounds and norms of society. It is considered as a generalized perception or assumption that the actions of an entity are desirable, proper or appropriation within some socially constructed system of norms, values, beliefs and definitions and so

organizations attempt to establish congruence between the social values associated with or implied by their activities and the norms of acceptable behaviour in the larger social system of which they are part. The essence of legitimacy theory is to ensure that environmental information is disclosed as a way of legitimizing the operations of the firms (Guthrie & Parker, 1989). This theory is the most appropriate to explain social and environmental disclosure since it entails conformity of an organization with the value of the society within which it operates.

Empirical Review

Ikapel, Tibbs, and Nelima (2023) assessed the effect of Environmental Disclosure on financial performance of listed firms at the Nairobi Securities Exchange, Kenya. Findings revealed that environmental disclosure has a positive significant effect on financial performance. Environmental accounting disclosure has significant effect on the performance of Nigeria listed firms. The study concluded that the disclosure of the environment information resulted in an improvement in the organization financial performance. Environmental accounting disclosure leads to an improvement in the organization's financial performance by improving the confidence of potential investors and creditors, thereby enhancing the image of the organization. Also, suggested that oil and gas producing companies should give preference to their environment so as to improve their future performance and profitability of their operations.

Erinoso and Oyedokun (2022) explained the impact of environmental disclosure and audit on the financial performance of listed oil and gas businesses on the Nigerian Exchange as of December 31, 2020, encompassing the years 2011 to 2020. The study used an ex-post facto research design, with 11 companies picked from the 13 listed oil and gas companies on the Nigerian Exchange. Panel data regression was used to analyze the effect of environmental disclosure and environmental audit on financial performance. The results of the analysis showed that environmental disclosure has a significant effect on Returns on Assets (ROA), Profits After Tax (PAT), and Returns on Equity (ROE) of listed oil and gas companies in Nigeria and environmental auditing has no substantial effect on ROA or PAT but it does have a considerable impact on ROE of Nigerian listed oil and gas companies. It was then determined that environmental disclosure boost the financial performance of the selected oil and gas firms. The report urged oil and gas corporations to create and execute ecologically responsible practices to maximize profits.

Atang and Eyisi (2020) carried out a study on the association between the content of corporate environmental disclosure and corporate financial performance. The study

was concerned with a lack of corporate social responsibility disclosures in annual reports due to their voluntary nature. The content analysis technique examined the association between social sustainability reporting and characteristics of companies. The authors scored environmental disclosures in 20 pre-selected content categories along four dimensions; evidence, time, specificity, and theme. Proxies environmental performance by a performance index devised by the Council on Economic Priorities (CEP), a non-profit organization specializing in the analysis of corporate social activities. Forty firms were selected from the 50 firms that were monitored by the CEP. Regression results indicated no association between environmental disclosure and environmental performance. Findings from the study suggest that a positive relationship exist between firms' financial leverage and the extent of voluntary disclosure.

Ogunode and Adegbie (2020) investigated environmental accounting and financial performance of Oil and Gas companies in Nigeria. The secondary data were made use in the study for the periods 2015, 2016 and 2017 with the total sampled 11 companies selected based on environmental information available in the annual reports. The data were analyzed using multiple regression analysis through the use of econometric model. The amount spent by each Oil company as their environmental costs (on air pollution, water pollution, staff welfare, medical expenses) community welfare and externalities were used as proxies for environmental accounting reporting while Return on Capital Employed (ROCE), Net Profit Margin (NPM), Dividend Per Share (DPS) and Earnings Per Share (EPS) were used as proxies for corporate performance. The result revealed that the explanatory variables, ROCE, NPM, EPS, and DPS have an insignificant relationship with ENVC with coefficients of .252, .011,.152 and .114 and P-values of .175, .950, .423 and .542 respectively. The 30.6% Adjusted R^2 indicates the variation in ENVC margin and could be explained by variability in explanatory variables as well as control variables in the model.

Tafadzwa and Ganda (2019) examined the relationship between corporate sustainability disclosure and return on investment. The sample of the study consisted of ten Johannesburg Stock Exchange (JSE) - listed mining companies, and the data was extracted from sustainability reports for a period of five years from 2010 to 2014. In this regard, data collection was undertaken by the adoption of a content analysis approach. A multi-regression analysis was used to analyze the relationship between environmental disclosure and return on investment. The same statistical mechanism was employed to determine the association involving social disclosure and return on investment. Results showed that there is a negative relationship between environmental disclosure and return on investment. On the other hand, the research

revealed that there is also a positive association between social disclosure and return on investment. In conclusion, this implied that an increase in corporate reporting of social issues results in heightened financial performance through an increase in return on investment. The study recommended the adoption of corporate social disclosure as it would encourage firms to be socially responsible, while also generating financial benefits.

Methodology

This study adopts ex-post facto research design. The population of the study comprised of all the 43 manufacturing Companies on the Nigerian Exchange for the year 2017 to 2023. Data was gathered using content analysis. The study relies heavily on secondary data which was extracted from the annual reports and account of the manufacturing companies for the years covered by the study. Data gathered were analysed using multiple regression technique.

Presentation of Data

Presentation of Research Question

Does Environmental Disclosure have any effects on the Financial Performance of Manufacturing Companies in Nigeria?

Interpretation of the Effect of Environmental Disclosure on Financial Performance

This analysis investigates the relationship between Environmental Disclosure (EDI) and financial performance, utilizing two different models: Return on Assets (ROA), a measure of profitability, and Tobin's Q, a measure of market valuation.

For the ROA Model (Return on Assets). The study conducted the pre-estimation test to assess the best model to interpret the result of the Hausman Test with a p-value of 0.2731 indicates that the random effects model is appropriate, as there is no significant difference between fixed and random effects. The Lagrange Multiplier Tests for Random Effects (22.7789, $p = 0.0005$) indicate the presence of random effects, confirming the choice of a random effects approach.

The Panel Heteroscedasticity Test: ROA Model ($p = 0.3731$) shows no significant heteroscedasticity, confirming that the variance of residuals is consistent across observations. The Serial Correlation Test: ROA Model ($p = 0.9373$) suggests no evidence of serial correlation, indicating that residuals are independent over time.

The variable of Firm Size (FS) with the coefficient value of 0.0172: The positive coefficient indicates that as firm size increases, ROA slightly increases. However, the

effect is minimal, suggesting that firm size does not have a strong influence on profitability. More so, with the insignificant t-value, it was discovered that firm size does not have a statistically significant effect on the ROA, as the p-value is greater than 0.05. This reveals that variations in firm size do not significantly affect ROA in this model.

Leverage (LEV) with the coefficient value of 0.3153: This positive coefficient indicates that firms with higher levels of debt (leverage) tend to have higher ROA. It implies that leverage may facilitate greater operational efficiency or the ability to invest in profitable ventures. The leverage t-value (2.2243) and p-value (0.0278) shows that the result is statistically significant at the 5% level, indicating that leverage has a meaningful and positive effect on profitability. Higher leverage likely suggests that firms are effectively using debt to enhance their returns.

The result of the Environmental Disclosure (EDI) reports a coefficient value of 0.0931: A positive coefficient indicates that firms that provide more comprehensive environmental disclosures are associated with better profitability. This suggests that transparency in environmental practices can lead to improved financial performance. The t-value of 2.4187 and p-value of 0.0170 shows that the result is statistically significant at the 5% level, reinforcing the idea that companies that are more open about their environmental impact tend to perform better financially. The model explains approximately 11.8% of the variance in ROA. More so, after adjusting for the number of predictors, the model explains about 10.4% of the variance, confirming a modest explanatory power. The overall model is statistically significant, indicating that at least one of the predictors (FS, LEV, or EDI) has a relationship with ROA.

Tobin's Q Model

The study conducted the pre-estimation test to assess the best model to interpret. The result of the Hausman Test with a p-value of 0.1771) indicates that the random effects model is appropriate, as there is no significant difference between fixed and random effects. The Lagrange Multiplier Tests for Random Effects indicate the presence of random effects, confirming the choice of a random effects approach.

The Panel Heteroscedasticity Test with p-value greater than 0.05 shows no significant heteroscedasticity, confirming that the variance of residuals is consistent across observations. The Serial Correlation Test: Tobin's Q Model also indicates that there is no evidence of serial correlation, indicating that residuals are independent over time.

Firm Size (FS) with the Coefficient of -21.1013 shows that there is negative relationship between firm size and the Tobin's Q. The negative coefficient indicates that larger firms tend to have significantly lower Tobin's Q. This suggests that larger firms may be viewed less favorably in terms of market valuation. The result is

statistically significant at the 5% level, indicating a strong negative relationship between firm size and market valuation. Larger firms may face diminishing returns in market perception compared to smaller, more agile firms.

Leverage (LEV) reports a coefficient value of 30.0922: A positive coefficient suggests that higher leverage is associated with a higher Tobin's Q, indicating that firms are perceived positively by the market when they use debt effectively. The relationship is not statistically significant at 5% levels, implying that while leverage may positively influence market valuation, this effect is not strong enough to confirm a reliable relationship.

Environmental Disclosure (EDI) reports positive coefficient of 42.0646 and a significant t-value (2.6810) and p-value (0.0082). The large positive coefficient indicates that firms with higher environmental disclosures have significantly higher market valuations. This reflects that transparency in environmental practices may enhance investor confidence and market perception. This result is highly significant at the 1% level, underscoring the importance of environmental disclosure in positively influencing market valuation.

The model explains approximately 32.5% of the variance in Tobin's Q, suggesting a better fit than the ROA model, but still indicates that additional factors might be influencing market valuation. After adjusting for predictors, the model still explains about 31.1% of the variance, indicating a good level of explanatory power. The overall model is statistically significant, meaning that the independent variables collectively influence Tobin's Q.

Table 1: Effect of Environmental Disclosure on Financial Performance

	ROA Model			**TOBINSQ Model**		
	Coefficient	**t-value**	**p-value**	**Coefficient**	**t-value**	**p-value**
FS	0.0172	0.7513	0.4533	-21.1013	-2.4980	0.0133
LEV	0.3153	2.2243	0.0278	30.0922	1.5925	0.1128
EDI	0.0931	2.4187	0.0170	42.0646	2.6810	0.0082
C	-0.4080	-1.0106	0.3134	401.1241	2.4575	0.0148
R-squared	0.1179			0.3253		
Adjusted R-squared	0.1036			0.3111		
F-statistic	11.5691			18.7880		
Prob(F-statistic)	0.0000			0.0000		
Hausman Test	3.8945(0.2731)			4.9284(0.1771)		
Lagrange Multiplier Tests for Random Effects	22.7789 (0.0005)			450.3664 (0.0000)		
Panel Heteroscedasticity test	69.7463(0.3731)			75.6883(0.2911)		
Serial Correlation Test	-0.0994(**0.9373)**			-0.1857(**0.8121)**		

Discussion of Findings

The Effect of Environmental Disclosure on Financial Performance

The positive coefficient of ROA reveals that larger firms tend to experience a slight increase in profitability (ROA). However, the effect is statistically insignificant, as

indicated by the p-value greater than 0.05. This means that firm size does not significantly influence profitability in this model. Larger firms may not inherently perform better in terms of profitability, likely because of increased operational complexity or inefficiencies. This finding supports the resource-based theory, which suggests that the resources and capabilities within a firm, not just size are more important determinants of profitability. While larger firms might benefit from economies of scale, these advantages do not automatically translate into higher profitability without effective resource utilization (Zango, 2021). The positive coefficient indicates that firms with higher leverage (more debt) tend to have higher profitability. The result is statistically significant at the 5% level, suggesting that leverage positively influences profitability. This finding indicates that firms effectively using debt can enhance operational efficiency or invest in profitable ventures, thus boosting ROA. According to agency theory, debt can act as a disciplinary mechanism, pushing managers to operate more efficiently under the scrutiny of debt holders. Firms that manage debt well can generate higher returns, but excessive debt might pose financial risks if not handled properly (Zango, 2021).

The positive and significant coefficient of Environmental Disclosure (ED) shows that firms with higher environmental transparency tend to have better profitability. This suggests that firms that engage in comprehensive environmental disclosure benefit from improved financial performance.

This finding supports the idea that transparency in environmental practices can lead to enhanced reputational standing, increased customer loyalty, and improved investor confidence, all of which positively impact profitability. The result aligns with stakeholder theory, which emphasizes that firms responding to stakeholder demands for environmental accountability are more likely to benefit from enhanced financial outcomes. As consumers and investors increasingly prioritize sustainability, firms that are transparent about their environmental impact may enjoy competitive advantages and improved financial performance.

Conclusion and Recommendations

The study highlights important trends in environmental disclosure practices among Nigerian manufacturing companies and their effect on financial performance. Over the analyzed period (2017-2023), there was a notable improvement in environmental transparency, driven by growing stakeholder expectations and global regulatory pressures. However, the fluctuation in disclosure scores, particularly the decline in 2023, underscores the challenges companies face in maintaining consistent sustainability practices amid external pressures such as economic downturns.

More so, it is obvious that major determinants of environmental disclosure include leverage, profitability, and company's size, with more profitable and larger company showing greater commitment to sustainability reporting. However, highly leveraged companies tend to limit their disclosures, likely to avoid increased scrutiny and aligning with agency theory. This variation in disclosure practices across companies emphasizes the influence of industry norms, regulatory pressures, and resource availability on corporate sustainability strategies. It was evidenced that the findings indicate that companies that prioritize environmental transparency are better positioned to enhance their financial performance.

Based on the findings of this study, the study offered the following recommendations:

i. To prevent fluctuations in environmental disclosure practices, companies should integrate sustainability reporting into their long-term strategic planning. This can be achieved by adopting internationally recognized frameworks such as the Global Reporting Initiative (GRI) or the Sustainability Accounting Standards Board (SASB) to ensure consistency and comparability in environmental disclosures across time and industries.
ii. It should not only be companies with high leverages and big firms' sizes that should prioritized disclosure of environmental issues in their reports.

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