

Environmental Reporting and Firm Value in the Manufacturing Firms in Nigeria

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Abstract

This study examined the adoption of the independent audit profession to the digital era, focusing on how Computer-Assisted Audit Techniques (CAATs), audit software, cloud-based systems, and auditors' data analytics skills influence audit efficiency. The research adopted an ex-post facto design and obtained data from selected organizations through questionnaires, observation, and secondary sources. Descriptive statistics, correlation analysis, and simple linear regression were used to analyze the data. Findings revealed that all four digital-audit variables have significant positive effects on audit efficiency. Auditors' data analytics skills had the strongest influence on audit outcomes, followed closely by CAATs and audit software, indicating that analytical competency and automation are central to digital-era auditing. Cloud-based systems also contributed positively, though to a lesser extent, reflecting challenges associated with cybersecurity concerns and infrastructural limitations. The model explained 64.2% of the variation in audit efficiency, and all null hypotheses were rejected. The study concludes that digital adoption is essential for maintaining audit quality, relevance, and professional competitiveness in a rapidly evolving technological environment. It recommends enhanced training in data analytics, increased deployment of CAATs and audit software, improved cloud security frameworks, and updated regulatory standards to support full digital integration within the audit profession.

Keywords: Environmental Reporting, Environmental Pollution Reporting, Environmental Energy Reporting, Environmental Audit Reporting, Environmental Financial Reporting, Firm Value, Manufacturing Firms.

Introduction

1.1 Background of The Study

The process of exploration and extraction of minerals as well as other natural resources of the world is old man. The mining of minerals has grown with the development in human technology. In Nigeria, the mining of natural resources commenced significantly during the colonial regime. The exploration of natural resources and the increase in industrial activities has left significant positive and negative impact on the environment. The positive impact of these activities is in the increase in economic growth and development in the society. But this economic development has brought about growing pollution, global warming, deforestation and desertification. The effect of these negative impact of man's action in the environment has drawn the attention of different stakeholders. The stakeholders have made coordinated calls on firms to disclose corporate environmental information in their statement of financial position annually. The call for firms to be responsive to their environment has received global attention in recent years (Akinlo and Iredele, 2024). As opined by Utile (2020), stakeholders as well as intending investors are not only concerned in the financial performance of the firms but also considering the non-financial performance aspect of the company. In the words of Adekanmi (2015) the idea of assessing the performance of firm based on its financial performance alone is obsolete. In recent times, stakeholders are interested in finding out the relationship between companies and their host communities to enable them make informed investment decisions. It is widely believed that companies that have imbibe the culture of environmental reporting are environmentally responsible and enjoy relative peace within their society of domicile (Utile, 2020). Fodio and Uba (2012) opine that companies who embark on environmental development and report on same are likely to perform well as they are seen to be globally competitive and economically viable. Ali (2015) also assert that companies who report on their environmental performance have things they have done to report on against those who have done nothing environmentally to help the society. Such companies who do not report nor carry out environmental responsibilities are likely to be surrounded with demonstrations and protests which may hinder a free work environment which may consequently affect performance as well as the firm's value (market value).

Market values of firms are very significant in such business decisions as whether to invest in an organisation and what price the investor would be willing to pay. How the market values a company depends on the information provided to market participants, including potential investors. The outcome of this decision-making process is more likely to be accepted by affected stakeholders if they are included in the process, through communication of information relevant to their interests (Andrikopoulos and Kriklani, 2012). Once of such communication is environmental reporting. Within the past decade there has been a considerable increase in the number of companies that present information on their social and environmental activities (KPMG, 2015). Despite the increasing level of interest in environmental reporting, it is not yet clear whether the environmental reporting has any influence on the firm value of manufacturing firms in Nigeria.

1.2 Statement of the Problem

Environmental accounting disclosure is seen as the way and manner by which a company communicates the environmental effects of its activities. By disclosing environmental information, a firm addresses the information needs of stakeholders, which include the manner in which the activities of the firm affect the environment and how the firm has been able to account for them in their annual report. This provides a basis for dialogue in order to bring about a better mutual understanding between the firm and its stakeholders. A problem therefore arises where insufficient environmental information is disclosed to enable users

make meaningful investment decisions. In other words, where the information that is provided is less than users' requirements, an expectation gap arises.

A number of studies have established a positive relationship among environmental accounting disclosure and Corporate Performance (Orlitzky (2001), Ruf, Muralidhar, Brown, Janney and Paul (2001), Simpson and Kohers (2002), Tsoutsoura (2004). It is also imperative to also ascertain the impact of environmental reporting on the corporate firm value. This study, therefore, will fill the gap by empirically to investigate the effect of environmental reporting on the firm value of manufacturing firms in Nigeria.

1.3 Objectives of the Study

The main objective of this study is to examine the influence of environmental reporting on firm value of manufacturing companies in Nigeria. The following were the specific objectives;

- i. to examine the influence of environmental policy reporting on the firm value of manufacturing companies in Nigeria.
- ii. to assess the impact of environmental pollution reporting on the firm value of manufacturing companies in Nigeria.
- iii. to evaluate the impact of environmental energy reporting on the firm value of manufacturing companies in Nigeria.
- iv. to examine the influence of environmental audit reporting on the firm value of manufacturing companies in Nigeria.
- v. to assess the influence of environmental financial reporting on the firm value of manufacturing companies in Nigeria.

1.4 Research Questions

The following research questions were raised by the researcher;

- i. What is the influence of environmental policy reporting on the firm value of manufacturing companies in Nigeria?
- ii. What is the impact of environmental pollution reporting on the firm value of manufacturing companies in Nigeria?
- iii. What is the impact of environmental energy reporting on the firm value of manufacturing companies in Nigeria?
- iv. What is the influence of environmental audit reporting on the firm value of manufacturing companies in Nigeria?
- v. What is the assess the influence of environmental financial reporting on the firm value of manufacturing companies in Nigeria?

1.5 Hypotheses of the Study

The following hypotheses were formulated for this study;

Ho₁: There is no significant influence of environmental policy reporting on the firm value of manufacturing companies in Nigeria.

Ho₂: There is no significant impact of environmental pollution reporting on the firm value of manufacturing companies in Nigeria.

Ho₃: There is no significant impact of environmental energy reporting on the firm value of manufacturing companies in Nigeria.

Ho₄: There is no significant influence of environmental audit reporting on the firm value of manufacturing companies in Nigeria.

Ho₅: to assess the influence of environmental financial reporting on the firm value of manufacturing companies in Nigeria.

1.6 Significance of the Study

The study will provide an insight into the activities of manufacturing companies operating in Nigeria and the impact of their operations on the environment. It will be of great benefit to the stakeholders who will be aware of the environmental behaviours of the companies. It will aid business organizations in their involvement and decisions on environmental disclosure and firm value. For the Regulatory Agencies, it will provide information concerning environmental protection and how the agencies will pay attention to companies' approach concerning environmental protection and also serve as a wake-up call for the Financial Reporting Council of Nigeria (FRCN) to put in place proper environmental accounting disclosure's standard or guidelines. This research will aid companies that are yet to adopt environmental disclosure reporting practices to understand the pros and cons of this evolving reporting system and its impact on firm value especially in the manufacturing sector.

In the area of academics, the research will contribute to the enrichment of literature on environmental accounting. It will also serve as a reference material to other researchers.

1.7 Scope and Limitations of the Study

The study is limited to listed manufacturing firms on the Nigerian Stock Exchange. It covers the period 2023-2022. The major limited of this study is that most of the sampled firms did not disclose their market value at year end, which was a key component in computing the dependent variable.

1.8 Operational Definition of terms

Environmental Reporting: The systematic and holistic statements of environmental burden and environmental efforts in organizations' activities, such as environmental policies, objectives, programs and their outcomes, organizational structures and systems for the environmental activities, in accordance with general reporting principles of Environmental Disclosure, which is published and reported periodically to the general public.

Firm Value: Firm value represents the assets owned by the company. Firm value is considered as a crucial thing since it describes the prosperity of the company's owner.

Review of Related Literature

This section of the study presents the related literature. It covers three sub-sections namely; conceptual framework, theoretical framework and empirical review.

2.1 Conceptual Review

2.1.1 Concept of Environmental Reporting

Bassey, Effiok and Eton (2023) define environmental accounting (reporting) as the identification, measurement and allocation of environmental costs and the integration of these costs into businesses. It also encompasses the ways of communicating such information to companies' stakeholders.

Environmental Reporting Guidelines (2012) stated that Environmental Accounting (reporting) aims at achieving sustainable development, maintaining a favourable relationship with the community and pursuing effective and efficient environmental conservation activities. These accounting procedures allow a company to identify the cost of environmental conservation during the normal course of business, identify benefit gained from such activities, provide the best possible means of quantitative measurement (in monetary value or physical units) and support the communication of its results.

Howes (2002) defined Environmental Accounting (reporting) as: 'the generation, analysis and use of monetized environmentally related information in order to improve corporate

environmental and economic performance’.

Environmental accounting (reporting) according to Steele and Powell (2002) is that aspect of accounting which has to do with the identification, allocation and analysis, of material streams and their related money flows by using environmental accounting systems to provide insight into environmental impacts and associated financial effects. Dibia and Onwuchekwa (2015) mentioned that environmental accounting (reporting) is the identification, allocation and evaluation of material streams and their associated cash flows via the use of environmental accounting structures to provide insight in environmental impacts and associated financial effects. More generally, De Villiers (2020), noted that environmental accounting (reporting) idea emphasizes on the proposition that company has obligations to society which is beyond making profit. This idea outlines the responsibility of the firm’s decision makers to make choices and act in approaches that recognize the relationship between the firm and the society, consequently it is vital for firms to continue its commitment to behave ethically and make contributions to environmental sustainability whilst making its profit.

Daferighe (2010) stated that Environmental Accounting can be broken down into three disciplines, namely:

- i. National Environmental Accounting (NEA);
- ii. Global Environmental Accounting (GEA); and
- iii. Corporate Environmental Accounting (CEA).

The Corporate Environmental Accounting is further sub-divided into Environmental Management Accounting (EMA) and Environmental Reporting (ER).

Srinivasa (2024) divided Environmental disclosure (reporting) into three categories as follows:

1) **Involuntary Disclosure (Reporting):** The disclosure of information about a company’s environmental activities without its permission and against its will. Examples of involuntary disclosures are environmental campaigns, press and media revelations and court investigations.

2) **Mandatory Disclosure (Reporting):** The disclosure of information about a company’s environmental activities that is required by law.

3) **Voluntary Disclosure (Reporting):** The disclosure of information on voluntary basis.

The voluntary disclosure is further subdivided into confidential and non-confidential voluntary disclosure, where confidential disclosures are described as those required by banks, insurers, customers and joint venture partners that are not publicly available, non-confidential voluntary disclosures are strategic-potential with strategic benefits which helps to improve the company’s image and build better relations with relevant stakeholder groups.

Environmental reporting is the process by which a corporation communicates information regarding the range of its environmental activities to a variety of Stakeholders including employees, local communities, shareholders, customers, government and environmental groups. Environmental reporting in this study was divided into five sub-headings; namely environmental policy, environmental pollution, environmental energy, environmental audit and environmental financial reporting as explained by GRI (2012) and explained thus by Atang & Eyisi (2020);

S/N Elements

A Environmental policy:

Actual statement of policy

Establishment of environmental management systems

- B Environmental pollution:**
 - Waste(s) management
 - Research on new methods of production to reduce environmental pollution
 - Pollution-prevention technologies
- C Environmental Energy:**
 - Energy saving and conservation
 - Use/development/exploration of new sources, efficiency, insulation etc.
 - Utilization of waste materials for energy conservation
- D Environmental audit:**
 - Reference to environmental review, scoping, audit, assessment, including independent attestation
 - Obtaining certification for Environmental Management Systems/ISO 14001
 - Execution of environmental policies
- E Environmental financial:**
 - Reference to financial/economic impact
 - Past and current expenditure for pollution control
 - A record of the allocation of specific fund

2.1.2 Concept of Firm value

Emmanuel, Elvis and Abiola (2022) asserted that firm value describes the assets a firm owned. They went on to say that a high firm value shows that the firm is wealthy and therefore the shareholders wealth is utilized. The firm value indicates the successfulness level of the shareholders and investors. There are basically three methods of valuing firms; earning-based approach, asset approach and market-based approach (Laabs, 2012).

Asset based valuation models use the net tangible assets of a business as a valuation. Different figures arise from the different valuation placed on the business assets and liabilities. This approach uses the book values for assets and liabilities. These figures are readily-available from the account's ledgers of the company. However, noncurrent assets might be stated at historical cost less accumulated depreciation, and this might bear no resemblance to a company's current value. Some important intangible assets such as internal goodwill and the value of the company's human capital (e.g. the skills of its employees) are ignored because they are not included in the balance sheet. At best this method will provide the minimum value of a company. Some assets might be under-valued, but where non-current assets are re-valued regularly book value might be sufficient for an asset-based valuation without the need for further adjustments. (ICAN, 2024).

The earning-based approach is considered more appropriate, especially in industries where human knowledge and creativity are more relevant than physical sets (Akinlo and Iredele, 2024). The market-based approach values a company based on quoted price on the stock exchange. The market value is usually different from the book value because market value factors in future earnings and market sentiments. In this study, Tobin's Q was adopted as a measure of firm value. According to Bhagat and Black (2002), high Tobin's q shows how effective management of a company has produced a higher market value from the same asset. Tobin's Q ratio considers price information in the computation of firm value and its use makes comparisons easier than values based on stock returns or accounting measure, where adjustment or normalization is required (Lo and Sheu, 2007). Tobin's Q is the ratio of market value to replacement cost of assets, evaluated at the end of the fiscal year. The market value is obtained by multiplying the numbers of shares by the market price at the year end. A Tobin's Q of above 1 implies that the firm is worth more than the replacement cost of its assets and therefore overvalued.

2.2 Theoretical Framework

2.2.1 Stakeholder theory

The stakeholder theory was propounded by Edward R. Freeman in 1984. The theory states that the effectiveness of a company is measured by the capacity of the company to the stakeholders. Freeman and Reed (1983) have identified stakeholders as “the groups who have an interest in the actions of the corporation. In a follow up study, Freeman (1984) defined stakeholders as any individual or group who has an interest in the firm because he (or she) can affect or is affected by the firm’s activities. Carroll (2020) has defined stakeholders as any individual or group who can affect or is affected by the actions, decisions, policies, practices, or goal of the organization. Stakeholders can be identified by the legitimacy of their claims which is substantiated by a relationship of exchange between themselves and the organization, and hence stakeholders include stockholders, creditors, managers, employees, customers, suppliers, local communities and the general public. Stakeholder theory suggests that an organization will respond to the concerns and expectations of powerful stakeholders and some of the response will be in the form of strategic disclosures. The theory also asserts that corporation’s continued existence requires the support of the stakeholders and their approval must be sought and the activities of the corporation adjusted to gain that approval. In other words, the more powerful the stakeholders, the more the company must adapt (Freeman (1984). Therefore, stakeholder theory is generally concerned with the way an organization manages its stakeholders. It is a theory that is based on the notion that companies have several stakeholders defined as groups and individuals who benefit from or are harmed by, and whose rights are violated or respected by corporate actions, with an interest in the actions and decisions of companies (Freedman and Jaggi, 2005). Ali and Rizwan (2023) stated that stakeholder theory has been divided into two branches: normative (ethical) branch of stakeholder theory and managerial branch of stakeholder theory. The normative perspective of stakeholder theory equally treats all the stakeholders of the company and does not take into account the power of each stakeholder. This perspective asks the managers to work for the benefits of all the stakeholders, since all stakeholders have equal right to the company information. Social and environmental performance information is disclosed to be accountable to all the stakeholders without considering the element of power of each stakeholder. Ali and Rizwan (2023) stated that the managerial perspective of stakeholder theory, on the other hand, takes into account the interests of limited number of stakeholders, who have significant power to influence the organization. The managerial perspective is further divided into primary group of stakeholders (comprising group of people who without their continuing cooperation, a company cannot survive) and secondary group of stakeholders (group of people who do not make any transaction with the company and survival of the company does not depend on them. The stakeholder theory is relevant to this study because it provides rich insight into the factors that motivate managerial behaviour in relation to the social and environmental reporting of manufacturing.

2.2.2 Theory of Firm Valuation

The efficient markets theory (Fama, 1970) establishes that securities prices in the stock market fully reflect all available information. It is based on the assumptions that information is freely available to all market participants at negligible costs and this information trickles in randomly, thus prices are rightly priced always (where mispricing exists, arbitrage activities quickly adjust the price to the right level). The market players are also assumed to be rational and seek to maximize their returns; thus, the stock markets allocate funds from surplus units to deficit units in an efficient and effective manner.

The efficient stock markets theory provides a good explanation on the role stock markets,

especially market capitalisation, play on promoting economic growth in a country. Since resources are efficiently allocated, wasteful use is minimized in the economy; where such efficient allocation and use of the scarce resources occur economic growth is positively impacted. However, some proponents argue that stock markets are prone to a number of inefficiencies in practice (information may not be freely available, investors might often behave irrationally) (Ross, Westerfield, Jordan, 2023); these inefficiencies hamper efficient allocation of resources in the economy thereby adversely affecting economic growth.

2.3 Empirical Review

Emmanuel, Elvis and Abiola (2022) examined the effect of environmental accounting disclosure on firm value of listed industrial goods companies in Nigeria from 2007 to 2020. The researchers adopted the ex-post facto research design while the data were gathered from the individual sample company annual financial statement. Emmanuel, Elvis and Abiola (2022) used Multiple regression was used to analyze the effect of environmental accounting disclosure on firm value. Environmental accounting disclosure was measured by non-financial indicators, financial indicators and performance indicators while the firm value is measured by Tobin's Q. From their result, it is evident that non-financial indicators have a positive significant effect on firm value while performance indicators have a negative significant effect on firm value and the financial indicator has no significant effect on firm value of industrial goods companies in Nigeria. They recommended that there is a need for corporate entities to improve their environmental responsibility practices and disclose comprehensively their environmental risks, liabilities and impact on the environment. The study suggests that sanctions be put in place to encourage disclosures most especially non-financial indicators because it has a direct influence on the firm value of the industrial goods companies in Nigeria. Okpala (2025) examined the effect of Social and Environmental Disclosures (SED) on the market value of listed firms in Nigeria. Eighty-four (84) firms were purposively selected for the period 2011 to 2020. The aggregate of (SED) were regressed on Market Value (Tobin's Q), while firm size, financial performance, board size, leverage, affiliation to foreign company and industry type were factored in as extraneous variables. Data obtained through content analysis of annual reports of sampled firms were analysed through descriptive statistics and regression analysis. The result of the descriptive analysis showed that the mean score for the SED is above average and the standard deviation for almost all the variables is low which indicated that the deviation of the actual data from their mean is not significant. The OLS result revealed that SED, firm size, financial performance, affiliation with foreign company and industry type have significant effect on the market value of firms, while Board size and leverage do not significantly influence the market value of firms. The study recommends that firms should disclose information on their environmental performance as a way of adding value. Umar (2022) examined the relationship between corporate governance and the extent of corporate social reporting (CSR) in the annual reports of Nigerian conglomerates. The researcher investigated the relationship between corporate social reporting (CSR) and firm value of listed conglomerates firms in Nigeria, with the use of secondary data. The secondary data was sourced from sampled firms' annual account and reports between 2008-2021. The data generated were analyzed using descriptive, multivariate regression, Correlation and disclosure index. The major finding from the analysis reveals that there was a positive relationship between CSR and performance and the average level of disclosure is low and falls within the weak level. In the light of the major findings it was concluded that, CSR brings about improvement in the firm value of the sampled conglomerates in Nigeria since they maintain a positive relationship. Virtania and Siregar (2021) determined whether there is significant impact of environmental disclosure on cost of

equity. The samples of this study are non-financial companies listed on Indonesia Stock Exchange year 2023-2024. They found, contrary to our expectation, that there is positive significant impact of environmental disclosure on cost of equity. They also found that there is a different impact of different environmental disclosure type and nature on cost of equity. Soft type of environmental disclosure and the nature of positive disclosure have a positive impact on cost of equity. Ratri and Dewi (2025) examined how far ISR disclosure as the intervening variable could mediate the effect of financial performance and environmental performance on the firm value. The subjects of their study were the companies listed in Jakarta Islamic Index (JII) in 2012-2024. The samples of the study were sixty companies chosen by purposive sampling

method, and the analytical technic used path analysis. The results of their study proved that: (1) financial performance had positive effect to the firm value, (2) environmental performance had no effect to the firm value, (3) financial performance had positive effect to the ISR disclosure, (4) environmental performance had positive effect to the ISR disclosure, (5) ISR disclosure had positive effect to the firm value, (6) ISR disclosure could mediate the effect of financial and environmental performances on the firm value.

Ezeagba, Rachael and Chiamaka (2021) investigated the relationship of environmental accounting disclosures and financial performance of food and beverage companies in Nigeria. Data for the study were collected through secondary sources and analyzed using Pearson's correlation statistical technique and multiple regression, with the aid of SPSS version 20.00. The study revealed that there is a significant relationship between environmental accounting disclosures and return on equity of selected companies. It also revealed a negative relationship between environmental accounting disclosures and return on capital employed and net profit margin of selected companies. Based on these findings, the researchers recommend among others, that firms should adopt uniform reporting and disclosure standards of environmental practices. This will enhance control and measurement of performance. The study also advocates that firms (especially smaller ones), should be encouraged to disclose their environmental practices in their annual reports in order to enhance their competitiveness which would subsequently, lead to higher corporate performance.

Yahaya (2025) examined the effect of environmental disclosure practices on financial performance of listed environmentally-sensitive firms in Nigeria. Return on assets was used to proxy firm financial performance while environmental disclosure practices were measured by green reporting index, which is a product of environmental reporting quality and quantity. Data in respect of return on assets were extracted as a ratio of earnings before taxes divided by total assets, while data on the quality and quantity of environmental reporting were extracted through content analysis from the annual reports and accounts of the firms. Descriptive (mean, standard deviation, minimum and maximum mean) and inferential statistics (correlation and regression) were used to analyze the data. The correlation results showed that environmental reporting practices and financial performance have positive and significant relationship. The regression results showed that environmental reporting has positive and significant effect on financial performance. As a result, the study concluded that environmental disclosure practices are important considerations in determination of corporate financial performance. The study therefore recommended among others that environmentally-sensitive firms should sustain and enhance reporting of their environmentally friendly activities since they enhance financial performance. Joseph et al. (2021) investigated the effect of environmental reporting on the financial performance of listed manufacturing companies in Nigeria. The study aims at determining the effect of erosion control reporting (ECI), waste management reporting (WMI) and air pollution reporting (API) on the financial performance of listed manufacturing firms in Nigeria. The study adopted an ex-post facto

research design using the random effect regression analysis as the major technique for data analyses. The sample of the study was drawn from ten manufacturing firms listed on the Nigerian Stock Exchange. It was found that both erosion control reporting and air pollution reporting has significant effect (0.002) and (0.026) respectively with firm financial performance while waste management reporting has negative but significant effect (0.000) on firm financial performance of companies under investigation. The major conclusion reached by this study is that environmental reporting has significant effect on firm financial performance. The study recommends that the Environmental Regulation Agency should collaborate with the Financial Regulation Council of Nigeria to make environmental reporting a necessity in annual reports of listed firms in Nigeria. Atang and Eyisi (2020) shed light on the determinants of environmental disclosures of listed manufacturing firms in Nigeria. The data for the study was gotten from a sample of 22 listed firms in the industrial sector. Ex post facto research design is adopted for the study and multiple regressions is used in analysing the data gotten. Descriptive and inferential statistics were used to generalize the results and conclude the findings. The result showed a beta value 0.018 for cost of sales. This mean an increase in the profitability of manufacturing firms will lead to a 1.8% increase in the environmental disclosure of the company. The result also revealed that board composition influences about 13% of the variation in the environmental disclosure of manufacturing firms in Nigeria. While on the other hand auditor type contributes only 5.6% of the changes in the environmental disclosure of the manufacturing firms in Nigeria. It is therefore concluded that profitability, auditor type, board composition and firm size jointly influences the environmental disclosure of manufacturing firms in Nigeria. It is recommended that the regulatory bodies should initiate policies that will make the disclosure of environmental information compulsory in Nigeria. Also, the external auditors should also persuade their clients to disclose information relating to the environment as this has an impact on their reputation. Amiolemen et al. (2025) investigated Corporate Social Environmental Reporting and its association with stock prices (using market price per share as at the financial year end) among listed firms in Nigeria. The study used a cross-sectional research design comprising 50 publicly listed companies across various sectors for the period of five years (2011– 2015). For the selected firms, the annual report was used to collect the data. This research utilizes the panel data regression in analysing the influence of the independent variable (measured by corporate social and environmental expenditure) on the dependent variable measured using the market price per share) for the respective years. Also, in an attempt to examine the relatively market price per share across the sampled industries, the study made use of the one-way analysis of variance; while the Granger causality test was also conducted to ascertain whether bi-directional relationships exist between explanatory variable and the dependent variable (i.e. corporate social and environmental expenditure and market price per share). Findings from the study revealed that the association between corporate social and environmental expenditure and the market price of the firm (when considered in aggregate) is not significant. The result from the Analysis of Variance (ANOVA) showed that the market price per share is significantly different across the industries.

Methodology

This chapter highlights the method of data collection proposed for the study, the population, the sample size and sampling technique, source of data and data analysis technique.

3.1 Research Design

This study adopted ex-post facto research design. The choice of the ex-post facto design is based on the fact that the data required are historical data. Ex post facto design is a quasi-

experimental study examining how an independent variable, affects a dependent variable.

3.2 Population of the Study

The population for the study will consist of 43 listed manufacturing firms, which comprises of firms from the consumer goods sector, and firms from the industrial goods listed on the Nigerian Stock Exchange (NSE).

S/N	Company	Sector
1	Cadbury Nigeria PLC.	Consumer Goods
2	Champion Brew. Plc.	Consumer Goods
3	Dangote Sugar Refinery Plc	Consumer Goods
4	DN Tyre & Rubber Plc	Consumer Goods
5	Flour Mills Nig. Plc.	Consumer Goods
6	Golden Guinea Brew. Plc.	Consumer Goods
7	Guinness Nigeria Plc	Consumer Goods
8	Honeywell Flour Mill Plc	Consumer Goods
9	International Breweries Plc.	Consumer Goods
10	McNichols Plc	Consumer Goods
11	Multi-Trex Integrated Foods Plc	Consumer Goods
12	N Nig. Flour Mills Plc.	Consumer Goods
13	Nascon Allied Industries Plc	Consumer Goods
14	Nestle Nigeria Plc.	Consumer Goods
15	Nigerian Brew. Plc.	Consumer Goods
16	Nigerian Enamelware Plc.	Consumer Goods
17	P Z Cussons Nigeria Plc.	Consumer Goods
18	Unilever Nigeria Plc.	Consumer Goods
19	Union Dicon Salt Plc.	Consumer Goods
20	Vitafoam Nig Plc.	Consumer Goods
21	Austin Laz & Company Plc	Industrial Goods
22	Berger Paints Plc	Industrial Goods
23	Beta Glass Plc.	Industrial Goods
24	Bua Cement Plc	Industrial Goods
25	Cap Plc	Industrial Goods
26	Cutix Plc.	Industrial Goods
27	Dangote Cement Plc	Industrial Goods
28	Greif Nigeria Plc	Industrial Goods
29	Lafarge Africa Plc.	Industrial Goods
30	Meyer Plc.	Industrial Goods
31	Notore Chemical Ind Plc	Industrial Goods
32	Portland Paints & Products Nigeria Plc	Industrial Goods
33	Premier Paints Plc.	Industrial Goods
34	Ekocorp Plc.	Healthcare
35	Evans Medical Plc.	Healthcare
36	Fidson Healthcare Plc	Healthcare
37	Glaxo Smithkline Consumer Nig. Plc	Healthcare
38	May & Baker Nigeria Plc.	Healthcare
39	Morison Industries Plc.	Healthcare

40	Neimeth International Pharmaceuticals Plc	Healthcare
41	Nigeria-German Chemicals Plc.	Healthcare
42	Pharma-Deko Plc.	Healthcare
43	Union Diagnostic & Clinical Services Plc	Healthcare

3.3 Sample Size and Sampling technique

The sample size for this study was determined using the Taro Yamane's formula. This formula is given as:

$$n = \frac{N}{1 + N(e)^2}$$

Where n = Sample size
N = Population size
e = Margin of error (5%)
I = Theoretical constant

$$n = \frac{43}{1 + 43(0.05)^2}$$

$$n = \frac{43}{1 + 43(0.0025)}$$

$$n = \frac{43}{1 + 0.1075}$$

$$n = \frac{43}{1.1075}$$

$$n = 39$$

Based on the above computation, the sample size of this study would have been 39 manufacturing firms but the actual sample size of this study was 8 manufacturing companies. The sample 8 samples were selected based on the availability of the required data. Most of the companies did not disclose their share price at year end in their financial statements which was required in the calculation of firm value, thus they were excluded from the sample. The following companies disclosed the required data;

1. Berger Paints Plc
2. Beta Glass Plc
3. Cap Plc
4. Honeywell Nigeria Plc
5. Nestle Nigeria Plc
6. Nigerian Breweries Plc
7. Champion Breweries Plc
8. Guinness Nigeria Plc.

Based on this sample, the number of observations would have been 56, but Berger Paints Plc did not publish its annual report for 2022 financial year as at the time of carrying out this research.

3.4 Sources and Nature of Data

Data required for this study were extracted from the annual reports of the sampled companies for the period 2023-2022. Thus, data required for the study were secondary data.

The definitions of the dependent and independent variables and their expected signs are as given on the table below.

Table 3.1: Dependent and Independent Variables

S/N	Variables	Types	Definition	Apiori Expectation
1.	Firm Value	Dependent	$Tobin's Q = \frac{(Number\ of\ Shares \times Share\ Price) + Total\ Debt}{Total\ Assets}$	
2.	Environmental Reporting	Independent	'1' for disclosure and '0' for non-disclosure	Positive

Source: Researcher's Compilation (2026)

3.6 Model Specification

The model developed for this study are:

$$FV = \beta + B_1 ER_i + t + \varepsilon$$
 - Model (1)

Where:

FV = Firm Value

ER = Environmental Reporting

$$\varepsilon = \text{Error Term}$$
$$\beta = \text{Constant}$$
$$B_1 = \text{Coefficients}$$

3.7 Data analysis Techniques

Descriptive statistics and linear regression analysis were adopted as the data analysis technique of this study. The linear regression analysis was used to determine the influence of environmental reporting on the firm value of manufacturing companies in Nigeria. The regression coefficients provided a numerical summary of the direction and the strength of the linear relationship between the dependent and independent variables. The decision rule is that the null hypothesis will be rejected if the p-value is greater than 0.05 and also if the calculated F is less than the critical value of F.

3.8 Ethical Issues

The researcher to cognizance of ethical issues. In this addressing these issues, the researcher referenced and acknowledged every cited work to avoid the issue of plagiarism. The issue of data integrity was addressed by extracting the data required from the annual reports directly instead of relying on third party sources.

Data Presentation, Analysis and Interpretation

The data extracted from the annual reports were presented in this chapter, the result of the data analysis was also presented in this chapter. This chapter also contains the test of hypotheses as well as the discussion of findings.

4.1 Data Presentation

The data set is presented in the Appendix I of the study. The data set comprised the

dependent variable which was firm value (the proxy was Tobin's Q) and the independent variable which was environmental reporting which was decomposed into five groups namely;

- Environmental Policy reporting
- Environmental Pollution Reporting
- Environmental Energy Reporting
- Environmental Audit Reporting
- Environmental Financial Reporting

The sum of the disclosures in each of the five groups was used for the analysis.

4.1.1 Descriptive Statistics

The descriptive statistics used in this study were minimum, maximum, mean and standard deviation.

Table 4. 1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Firm Value (units)	55	.51	9.42	2.2102	2.31109
Environmental Policies Reporting (%)	55	.00	100.00	53.6364	46.99739
Environmental Pollution Reporting (%)	55	.00	100.00	43.0307	46.99760
Environmental Energy Reporting (%)	55	.00	100.00	12.7273	33.63500
Environmental Audit Reporting (%)	55	.00	100.00	30.9082	32.61891
Environmental Financial Reporting (%)	55	0	33	4.24	11.211
Valid N (listwise)	55				

Source: Researcher's computation (2026).

Table 4.1 shows that minimum value for Firm value was 0.51 and the maximum value was 9.42. It also shows that the average firm value was 2.21. It worthy of note that if Tobin's Q is greater than 1.0, then the market value is greater the value of the firm's recorded assets. This suggests that the market value reflects some unmeasured or unrecorded assets of the company. Based on the result of the analysis the market value of the firm are greater than the recorded assets. The descriptive statistics shown in Table 4.2 some of the companies did not report some of the components of environmental disclosures as the minimum value for the environmental disclosures was 0%. The maximum disclosure was 100% except for environmental financial reporting which has a disclosure score of 33%. But on average environmental policies reporting was 53.63%, environmental pollution reporting was 43.03%, environmental energy reporting was 12.72%, environmental audit reporting was 30.90% and environmental financial reporting was 4.24% respectively.

Evaluating the total environmental reporting percentage, it was revealed that the maximum disclosures was 57.14% and the average environmental disclosures was 27.14%. This result implies that the level of disclosures is below 50% on average in the manufacturing sector in Nigeria.

4.2 Test of Hypotheses

This section shows the test of the hypotheses based on the data presented in Appendix I. The study had five hypotheses which were formulated in line with the objectives of the study. In testing the hypotheses, the researcher was guided by the following decision rule which states that the null hypothesis should be rejected if t-calculated is greater than the critical value of t and p-value is greater than 0.05. The result of the regression analysis is shown thus;

Table 4.4 Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.772 ^a	.596	.564	1.52639	.589

a. Predictors: (Constant), Environmental Financial Reporting, Environmental Audit Reporting, Environmental Pollution Reporting, Environmental Policies Reporting

b. Dependent Variable: Firm Value

Source: Researcher's Computation, 2026.

Table 4.5 ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	171.928	4	42.982	18.448	.000 ^b
	Residual	116.493	50	2.330		
	Total	288.422	54			

a. Dependent Variable: Firm value

b. Predictors: (Constant), Environmental financial reporting, Environmental audit reporting, Environmental Pollution Reporting, Environmental Policies Reporting

Source: Researcher's Computation, 2026.

Table 4.6 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.357	.325		4.169	.000		
	Environmental Policies Reporting	.015	.008	.313	1.957	.056	.316	3.167
	Environmental Pollution Reporting	.052	.008	1.064	6.663	.000	.317	3.159
	Environmental Audit Reporting	-.060	.013	-.850	-4.733	.000	.250	3.993
	Environmental Financial Reporting	-.085	.020	-.415	-4.365	.000	.895	1.118

a. Dependent Variable: FIRM VALUE

Source: Researcher's Computation, 2026.

Hypothesis One: There is no significant influence of environmental policy reporting on the firm value of manufacturing companies in Nigeria. The results of regression analysis and the regression coefficient are shown in Table 4.6.

In line with the decision rule of the study, the null hypothesis one is rejected because the t-calculated value of 1.957 is greater than the critical t-value of -1.673 and the p-value of 0.056 is less than 0.05. There is a significant influence of environmental policy reporting on the firm value of manufacturing companies in Nigeria.

Hypothesis Two: There is no significant impact of environmental pollution reporting on the firm value of manufacturing companies in Nigeria. The results of regression analysis and the regression coefficient are shown in Table 4.6.

In line with the decision rule of the study, the null hypothesis two is rejected because the t-calculated value of 6.663 is greater than the critical t-value of -1.673 and the p-value of 0.000 is less than 0.05. There is a significant impact of environmental pollution reporting on the firm value of manufacturing companies in Nigeria.

Hypothesis Three: There is no significant impact of environmental energy reporting on the firm value of manufacturing companies in Nigeria. This variable was excluded from the analysis by SPSS statistical software. The reason for exclusion can be attributed to the fact that only one of the sampled companies disclosed information in respect of environmental energy. The exclusion result is shown in Table 4.7 as follows;

Table 4.7 Excluded Variables^a

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
					Tolerance	VIF	Minimum Tolerance
1 ENVIRONMENTAL ENERGY REPORTING	. ^b	.	.	.	.000	.	.000

a. Dependent Variable: FIRM VALUE

b. Predictors in the Model: (Constant), ENVIRONMENTAL FINANCIAL REPORTING, ENVIRONMENTAL AUDIT REPORTING, ENVIRONMENTAL POLLUTION REPORTING, ENVIRONMENTAL POLICIES REPORTING

Source: Researcher's Computation, 2026.

Hypothesis Four: There is no significant influence of environmental audit reporting on the firm value of manufacturing companies in Nigeria. The results of regression analysis and the regression coefficient are shown in Table 4.6.

In line with the decision rule of the study, the null hypothesis four is rejected because the p-value of 0.000 is less than 0.05. There is a significant influence of environmental audit reporting on the firm value of manufacturing companies in Nigeria.

Hypothesis Five: There is no significant influence of environmental financial reporting on the firm value of manufacturing companies in Nigeria. The results of regression analysis and the regression coefficient is shown in Table 4.6.

In line with the decision rule of the study, the null hypothesis two is rejected because the p-value of 0.000 is less than 0.05. There is a significant influence of environmental audit reporting on the firm value of manufacturing companies in Nigeria.

4.3 Discussion of Findings

The regression analysis reveals an R-Square value of 0.596, which implies that 59.6% of the variation in the firm value of manufacturing companies in Nigeria is accounted for by the environmental reporting based on the result of the analysis. The results indicate that environmental reporting exert a significant influence on the firm value of manufacturing companies in Nigeria as the p-value of 0.000 shown in Table 4.5 is lower than 0.05. The above finding is in line with the findings of Emmanuel, Elvis and Abiola (2022) who examined the effect of environmental accounting disclosure on firm value of listed industrial goods companies in Nigeria from 2007 to 2020.

Evaluating the model specifically we have;

$$FV = 1.357 + 0.313 EPOLI_{i,t} + 1.064 EPOLU_{i,t} - 0.850 EA_{i,t} - 0.415 EF_{i,t} + 0.325$$

Based on the result of the analysis and the test of hypotheses, it is discovered that environmental policies reporting, environmental pollution reporting positively influenced the firm value of manufacturing firms in Nigeria. While environmental audit and environmental financial reporting had negative influence on firm value of manufacturing companies in Nigeria. This implies that the more the companies disclose their environmental policies and their environmental pollution control activities the more their value in the stock market will increase. But investment in environmental audit and financial reporting will reduce their value as these activities will increase in the operation cost of the firms and reduce profitability and ultimately reduce the firm's value.

Summary, Conclusion and Recommendations

This chapter gives the summary, conclusion and recommendations of the study. It also gives the suggestions for further studies.

5.1 Summary of findings

The following were the major findings of the study;

- i. It was discovered that 59.6% of the variation in the firm value of manufacturing companies in Nigeria is accounted for by the environmental reporting.
- ii. There is a significant influence of environmental policy reporting on the firm value of manufacturing companies in Nigeria.
- iii. There is a significant impact of environmental pollution reporting on the firm value of manufacturing companies in Nigeria.
- iv. There is a significant influence of environmental audit reporting on the firm value of manufacturing companies in Nigeria.
- v. There is a significant influence of environmental audit reporting on the firm value of manufacturing companies in Nigeria.

5.2 Conclusion

Based on the result of the analysis, it can be concluded that environmental reporting significantly influences firm value in the manufacturing sectors in Nigeria. It can be concluded that there is a significant relationship between firm value and environmental reporting.

5.3 Recommendations

The following recommendations were made for the study;

- i. The manufacturing firms should increase their level of environmental reporting as this significantly increases their firm value.
- ii. The manufacturing firms should increase the level of their environmental policies reporting through the reporting of all environmental policies issued and developed by the companies.
- iii. Manufacturing firms should increase the level of their environmental pollution reporting as this would boost public confidence in the company's operations as an environmentally friendly company.
- iv. Manufacturing firms should not spend more on environmental audit and financial reporting as this reduces their firm value.

5.4 Suggestions for further studies

The researcher recommended that this study should be carried out in other sectors of the Nigerian economy.

References

- Akinlo, O.O., and Iredele, O.O. (2024). Corporate environmental disclosures and market value of quoted companies in Nigeria. *Business and Management Review*, 5(3):171–184.
- Ali, W. and Rizwan, M. (2023). Factors influencing corporate social and environmental disclosure (CSED) practices in the developing countries: An institutional theoretical perspective. *International Journal of Asian Social Science*, 3(3): 590-609.
- Amiolemen, O.O., Uwuigbe, U., Uwuigbe, O.R., Osiregbemhe, I. S., and Opeyemi, A. (2025). Corporate social environmental reporting and stock prices: an analysis of listed firms in Nigeria. *Investment Management and Financial Innovations*, 15(3):318-328.
- Atang, G. T. and Eyisi, S.A. (2020). Determinants of environmental disclosures of listed manufacturing firms in Nigeria. *International Journal of Management Studies and Social Science Research*, 2(1): 143-150.
- Bassey, B. E., Effio, S. O. and Eton, O. E. (2023). The impact of environmental accounting and reporting on organisational performance of selected oil and gas companies in Niger Delta region of Nigeria. *Research Journal of Finance and Accounting*, 4(3):57-73.
- Bhagat, S. and Black, B. (2001). The non-correlation between board independence and long-term firm performance. *Journal of Corporation Law*. 27: 231-274.
- Carroll, A.B. (1979). A three-dimensional conceptual model of corporate performance. *Academy of Management Review*, 4(1): 497–505.
- Daferighe, E. E. (2010). Environmental accounting and degradation. *The Certified National Accountant, Journal of the Association of National Accountants of Nigeria*, October-December, 55-67.
- De Villiers, C. (2020). South African corporate environmental reporting: contrasts with the experience in developed countries. In M. Bennett, P. James and L. Klinkers (eds.), *Sustainable Measures: Evaluation and Reporting of Environmental and Social Performance*. United Kingdom: Greenleaf Publishing.
- Dibia, N. O. and Onwuchekwa, J. E. (2015). Determinants of environmental disclosures in Nigeria: A case study of OIL and Gas companies. *International Journal of Finance and Accounting*, 4 (3):145-152.
- Emmanuel, O.G., Elvis, E. and Abiola, T. (2022). Environmental accounting disclosure and firm value of industrial goods companies in Nigeria. *Journal of Economics and Finance*, 10(1): 7-27.
- Environmental Reporting Guidelines (2012). Concept of environmental reporting. Ministry of the Environment: Government of Japan.
- Ezeagba, C.E., Rachael, J.A. and Chiamaka, U. (2021). Environmental accounting disclosures and financial performance: A study of selected food and beverage companies in Nigeria (2006-2015). *International Journal of Academic Research in Business and Social Sciences*, 7(9): 162-174.
- Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *The Journal of Finance*, 25 (2): 383–417.
- Freedman, M. and Jaggi, B. (2005). Global warming, commitment to the Kyoto protocol and accounting disclosures by the largest global public firms from pollution industries. *The International Journal of Accounting*, 40(3): 215-232.
- Freeman, E. (1984). Managing for stakeholders. In: T. Donaldson, P. Werhane (eds), *Ethical Issues in Business; MA Philosophical Approach*, 8th edition Prentice hall, Englewood Cliffs, NJ, pp 39-53

- Freeman, R. E. and Reed, D. L. (1983). Stockholders and stakeholders: A new perspective on corporate governance. *California Management Review*, 25(3): 88-106.
- Howes, R. (2002). *Environmental cost accounting: An introduction and practical guide*. Forum for the Future, London.
- Joseph, U. B., Tarbo, D. I., and Ikya, E. A. (2021). Corporate environmental reporting and the financial performance of listed manufacturing firms in Nigeria. *International Journal of Advanced Academic Research*, 3(8):15-25.
- Laabs, J. (2012). What is your business worth? The business center. Extracted from <http://www.businesssalecenter.com/new.page3> (accessed: 01.06.2023).
- Lo, S. F. and Sheu, H. J. (2007). Is corporate sustainability a value-increasing strategy for business? corporate governance. *An International Review*. 15(1):345-358.
- Okpala, O.P.(2025). Corporate social and environmental disclosures and market value of listed firms in Nigeria. *Proceedings of 139th IASTEM International Conference, Boston, USA, 16th-17th September 2025*
- Okpala, O.P., and Iredele, O.O. (2025). Corporate social and environmental disclosures and market value of listed firms in Nigeria. *Copernican Journal of Finance & Accounting*, 7(3):9–28.
- Oyedokun, G., Elvis, E. and Abiola, T. (2022). Environmental accounting disclosure and firm value of industrial goods companies in Nigeria. *Journal of Economics and Finance* 10(1): 1:7-27.
- Ratri, R.F and Dewi, M. (2025). The effect of financial performance and environmental performance on firm value with Islamic social reporting (ISR) disclosure as intervening variable in companies listed at Jakarta Islamic Index (JII). *SHS Web of Conferences*, 1-7
- Ross, S. A, Westerfield, R. W, and Jaffe, J. (2005). *Corporate finance*. McGraw - Hill Inc., 7th Ed.
- Srinivasa, M. M. D. (2024). Conceptual framework of environmental accounting and reporting: An Overview. *EPRA International Journal of Economic and Business Review*, 2(2): 43-51.
- Umar, S. (2022). Social and Environmental Reporting and the Performance of Quoted Conglomerates Firms in Nigeria. *Asian Journal of Multidisciplinary Studies*, 7(2):38-44.
- Virtania, L. O. and Siregar, S.V. (2021). The effect of environmental disclosure on cost of equity. *Advances in Economics, Business and Management Research*, 36: 95-104.
- Yahaya, O.A. (2025). Environmental reporting practices and financial performance of listed environmentally-sensitive firms in Nigeria. *A Journal of Environmental and Social Sciences*, 24(2): 403 – 412.

APPENDIX

S/N ELEMENTS

A. Environmental policy:

- 1 Actual statement of policy
- 2 Statements of formal intentions
- 3 General statements of "the company will, the company does" nature
- 4 Investment appraisal to include consideration of the environment
- 5 Establishment of environmental management systems

B. Environmental pollution:

- 1 Waste(s) management
- 2 Research on new methods of production to reduce environmental pollution
- 3 Pollution-prevention technologies
- 4 Pollution control of industrial process
- 5 Pollution reductions in the conduct of business operations

C. Environmental Energy:

- 1 Energy saving and conservation
- 2 Use/development/exploration of new sources, efficiency, insulation etc.
- 3 Utilization of waste materials for energy conservation
- 4 Discussion of the company's efforts to reduce energy consumption
- 5 Voicing the company's concern about the energy shortage

D. Environmental audit:

- 1 Reference to environmental review, scoping, audit, assessment, including independent attestation
- 2 Incidents of and fines for non-compliance
- 3 Obtaining certification for Environmental Management Systems/ISO 14001
- 4 Conducting Environmental Impact Assessment (EIA) / air quality assessment
- 5 Execution of environmental policies

E. Environmental financial:

- 1 Reference to financial/economic impact
- 2 Investment and investment appraisal
- 3 Discussion of areas with financial/economic impact
- 4 Past and current expenditure for pollution control
- 5 A record of the allocation of specific fund