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Green Accounting Practices And Shareholders' Value Of Listed Consumers Goods Companies In Nigeria

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ABSTRACT
This study analyzed the effect of green accounting practices and shareholders' value of listed consumers' goods companies in Nigeria for the period of 2012-2023. The specific objectives were to: examine the effect of biodiversity disclosure, emission disclosure, waste disclosure and environmental protection disclosure on shareholders' value of listed consumer's goods companies in Nigeria. Ex-post factor research designs were used in this study. The population of this study was made up of all consumer goods firms that are listed on the floor of the Nigerian Exchange group up to December, 2023, while 10 consumer firms were used. The variables were shareholders' value as the dependent variables while biodiversity disclosure, emission disclosure, waste disclosure and environmental protection disclosure were the independent variables. Panel Least Squared (PLS) method of data analysis was used**.** The study also employed descriptive statistics, Hausman test and correlation in this study. From the analysis result the study found that, biodiversity disclosure has effect on shareholders' value of listed consumer's goods companies in Nigeria (t-test 2.595734, p=0.0033). Emission disclosure has no effect on shareholders' value of listed consumer's goods companies in Nigeria (t-test-0.965577, p=0.3363). Waste disclosure has effect on shareholders' value of listed consumer's goods companies in Nigeria**.** (t-test 2.396345, p=0.0182). The study concluded that green accounting practices has significantly influenced shareholder values of consumer firms in Nigeria. The study recommended amongst others that; Biodiversity disclosure has significant effect on the shareholders value of consumer companies operating in the country, and that these companies still need to do more to improve on their disclosure of such environmental impact consistent with relevant international regulations such as the GRI G.4, etc. The flaring of emission is still the common practice amongst major consumer companies operating in the Nigerian upstream sector. Shareholders should monitor the compliance of managers with the numerous laws and strategies used to reduce GHG flaring and the resulting carbon emissions in the company.
Keywords: biodiversity disclosure, emission disclosure, waste disclosure and environmental protection disclosure on shareholders' value

INTRODUCTION
The success of every corporate organization is dependent on its operational environment as no business can survive without the environment. A study by Dan Umoren, & Ukpong, (2025) revealed that most Nigerian manufacturing companies are silent on environmental information disclosure. Green accounting is a type of accounting that attempts to factor environmental cost into the financial result of operation (Adebanjo, & Wisdom, 2024). Green accounting (also known as environmental accounting) seeks to

measure sustainability by expanding gross measures of national welfare (product, investment, etc) to include non-market values, in particular ones associated with environmental goods and service (Adebanjo, & Wisdom, 2024).

Green accounting also seeks to incorporate costs and benefits of environmental protection and accounting systems such as profitability. Green accounting entails all practices carried out by management of firms to keep the environment "clean" and "green" by engaging in innovative and sustainable business practices that portray that they are "eco-friendly" and responsible entities (Akpan & Nkanta, 2023). Such practices include activities that preserve biodiversity, curb greenhouse gas emissions and waste management strategies to avoid environmental contamination. Green accounting or commonly called environmental accounting contains a description of collaborative efforts in utilizing the environment and the budget that will be issued in deciding financial allocation choices (Ajinwo & Dokubo, 2025).

Green accounting can be a tool for environmental management and public correspondence with respect to the company's functional activities. Green accounting is able to provide information about which companies contribute positively or negatively to the environment (Bina, 2013). Environmental problems are increasingly large and widespread at the local, regional, national, and global levels (Bram, 2011). There are many cases of environmental pollution such as air and water pollution, chemical waste, acid rain, radiation, nuclear waste, and forest fires causing unrest among people (Susilo and Astuti, 2014).

Statement of the Problem

Need for green accounting disclosures by business regardless of the industry type cannot be overemphasized. Green accounting serves as a means through which businesses can bring to the knowledge of stakeholders their environmental performance, to enhance value and corporate image as well as creating a sustainable base for improved earnings and operation in the future since no business can boast of not affecting their environment in one way or the other (Udo, 2018). Companies' activities have profound influence on society and environment not only in terms of benefits, but also in terms of risks and hazards. Activities of some companies have brought some environmental pollution, depletion of resources and threat to human health (Buckingham, 2011).

Increasing environmental issues such as global warming, destruction of biodiversity, soil erosion and deforestation by firms of which consumer goods firms are among, tend to have profound impacts on the environment. Despite the environmental laws and policies targeted at ameliorating these problems, the situation in Nigeria seems to be degenerating owing to the fact that these laws are not effectively enforced. Moreover, financial statements have not traditionally provided sufficient information on green accounting. Current reporting framework did not emphasize on green accounting which was what led to criticism of traditional reporting framework. This calls for examination of the quality of green accounting information voluntarily provided by firms in their annual report in other to create awareness among stakeholders and ascertain whether it is value relevant (Ofoegbu, 2016).

Environments pollution is one of the problems of the contemporary world at the international and regional levels, even in the developed industrial countries and developing countries like Nigeria. Most countries have adopted different measures to be able to control the effect of environmental problems and the introduction of conventional national income accounting that is meant to address this problem so it does not affect the growth of enterprises of which does not measure the depletion of natural resources and the degradation of the environment which in return have significant negative impact on performance of enterprise.

Also, the cost involvement in controlling environment problem, lack of skilled manpower, lack of set rules about the environmental accounting, inadequate environmental accounting standard, low adoption of environmental accounting, no specific principles of environmental accounting have all contributed to serious problem on the management of enterprises that guarantees the growth of enterprises. It is on this note that this study focuses on effect of green accounting practices on shareholders' value of listed consumer's goods companies in Nigeria.

Objectives of the Study

The broad objective of this study is to investigate the green accounting practices and shareholders' value of listed consumers' goods companies in Nigeria.

The specific objectives include:

1. To examine the effect of biodiversity disclosure on shareholders' value of listed consumer goods companies in Nigeria.
2. To measure the degree of emission disclosure on shareholders' value of listed consumer goods companies in Nigeria.
3. To determine the effect of waste disclosure on shareholders' value of listed consumer goods companies in Nigeria.
4. To determine the effect of environmental protection disclosure on shareholders' value of listed consumer's goods companies in Nigeria.

Research Hypotheses

The following research hypotheses are formulated in their null form:

Ho_1: Biodiversity disclosure has no significant effect on shareholders' value of listed consumer's goods companies in Nigeria.

Ho_2: Emission disclosure has no significant effect on shareholders' value of listed consumer's goods companies in Nigeria.

Ho_3: Waste disclosures have no significant effect on shareholders' value of listed consumer's goods companies in Nigeria.

Ho_4: Environmental protection disclosure has no effect on shareholders' value of listed consumer's goods companies in Nigeria.

REVIEW OF LITRATURE

Conceptual Review

Green Accounting

Galari, Gravas and Stavropoulos (2011) defined green accounting as the process of communicating the social and green effects of organizations' economic actions to various interest groups within society and to the wider public. Crowther (2010) further explains green accounting as an approach to reporting a firm's activities which stresses the need to identify socially relevant behaviour, determine those to whom the company is accountable for its social viability, and develop appropriate measures and reporting techniques.

Green accounting can be defined as "the whole of the activities of determining, collecting, analyzing and reporting environmental cost information to relevant persons" (Şimsek & Ozturk, 2021). Cohen & Robbins (2011) defined green accounting as "a style of accounting that includes the indirect costs and benefits of economic activity, such as environmental effects and health consequences of business decisions and plans". Green costs can be broken-down into the following categories: (1) costs of prevention; (2) costs of detection; (3) costs of internal failures; and (4) costs due to external failures (Gonzalez & Peña-Vinces, 2022).

Green accounting is "the ability to provide accurate information in the financial statements regarding the estimated social cost occasioned by the production externalities on the environment and how much deliberate intervention cost had been incurred to bridge the gap between the marginal social cost and the marginal private cost by a firm" (Makori & Jagongo, 2013). Green accounting is a growing field that aims and to provide important and necessary information on green costs and revenues, and direct businesses and project owners in making economic decisions, motivating them to make efforts to use natural resources, including natural resources created by man, effectively and efficiently (Nguyen, 2020).

Green accounting includes production, analysis and the utilization of information related to financial matters in the environment regarding the economic and environmental performances of a company (Rounaghi, 2019). In addition, green accounting include all expenses gained associated with preserving

the environment, such as the treatment of emissions as wasted material, labor, and capital, which is thus referred to as "non-product output," caused by inefficient production activities (Riyadh et al., 2020).

Theoretical Framework

Legitimacy Theory

Legitimacy theory was developed by Dowling and Pfeffer in 1975. Organizations try to make sure they try to operate within the bounds and norms of their respective society. Legitimacy theory suggests that businesses operate in a society according to the social contract upon which their survival and growth are dependent. Legitimacy theory posits that a social contract or agreement exists between an enterprise and its constituents due to which a business agrees to perform various socially desired actions in return for approval of its objectives, other rewards and ultimate survival. It is based on a synergetic view; that the financial and competitive success of a firm is intertwined with its social legitimacy (Perrini & Tencati, 2006).

Assumptions of Legitimacy Theory

The main assumption of legitimacy theory is fulfilling the organization's social contract, which enables the recognition of its objectives.

1. Social perceptions of the organization's activities are reported per the expectations of society (Schiopoiu-Burlea & Popa, 2013);
2. Organisations can obtain legitimacy if the company can match the value system that grows in society and the environment (Deegan, 2014).

Relevance of Legitimacy theory

Legitimacy theory is relevant to organizations because it highlights the importance of maintaining a positive relationship with key stakeholders, such as customers, employees, investors, and regulators. By establishing and maintaining legitimacy, organizations can secure access to valuable resources, such as capital, knowledge, and social approval, which can enhance their competitive advantage and long-term survival. Legitimacy theory suggests that organizations can maintain legitimacy by adhering to social and ethical norms, complying with regulations, and engaging in corporate social responsibility initiatives.

Empirical Review

Ajinwo, & Dokubo, (2025) examined environmental costs and financial performance of listed consumer goods manufacturing companies in Nigeria. The specific objectives include to: ascertain the relationship between environmental restoration cost and return on capital employed of listed manufacturing sector companies in Nigeria; determine the relationship between community development cost and return on capital employed of listed manufacturing sector companies in Nigeria. The researcher adopted the ex-post facto research design technique; the population size of the study was twenty-one (21) firms while the sample size of ten (10) consumer goods manufacturing companies listed on the Nigeria Exchange Group (NGX) was selected. The sources of data collection were secondary sources. The descriptive statistics, multiple linear regressions model, R-Square, Adjusted R-Square, t-Statistic (t-Stat), Statistics and P-value are used to analyze the data collected. The findings of the study include: environmental restoration cost showed positive and significant relationship with returns on capital employed; community development cost indicated positive and significant relationship with returns on capital employed amongst others. It is recommended that companies should adopt a strategic approach to environmental restoration efforts and also, management should continue investing in community development initiatives as they have the potential to enhance both their financial performance and societal impact.

Lekia Ironkwe, & Nkem (2024) explored the relationship between green accounting practice and listed oil and gas companies performance metrics in Nigeria. Panel data on different types of green accounting practice and Tobin's Q from 2010-2023 were collected from the Nigerian exchange group, annual report of listed oil and gas companies, and federal inland revenue service pro-mass descriptive statistics, panel unit root test Hausaman Test, Multiple Regression Analysis, Panel Cointegration Test, Pairwsie Panel Causality Test and Error Correction Model Test were used in analyzing the data. The results indicated

that green accounting practice significantly relate to Tobin's Q; explain about 83.4% of the total variation in Tobin's Q Green Investment, initiatives, activities were each found to significantly relate to Tobin's Q. The study therefore concluded that green accounting practice has the potency to make significant contribution to performance metric and recommended that oil and gas firms should develop sustainability strategies aligned with their business goals, prioritize green investments with high Tobin's Q, involve stakeholders in decision-making, monitor and measure impact, collaborate with partners, and communicate effectively.

Adebanjo, & Wisdom, (2024) analyzed the effect of green accounting practices on the value of publicly traded Nigerian companies. The methodology adopted for this research was the ex-post facto research design. Data collection was carried out through stratified sampling, employing secondary data from the annual report of 18 listed firms on the Nigerian stock exchange. Secondary data from 2012 to 2021 period were collected from the annual report of listed firms on the Nigerian stock market. The panel Generalized Method of Moments was used in this investigation as well as other econometric tests. The results demonstrated that green accounting practices (waste management disclosure (WMD)) is not significantly related to Tobin's Q (TQ), but was positively and significantly related to price earnings ratio (PE). These findings indicated that while green accounting is essential for ensuring long-term sustainability, its present adoption and acknowledgement in Nigeria may need further progress in order to fully achieve its projected advantages. In conclusion, policymakers should do the following: promote stakeholder engagement, embed green accounting methods into business systems and support environmental preservation. The present study enhances the current body of knowledge by offering an in-depth examination of the influence of green accounting practices on the value of companies in Nigeria. While there has been research on green accounting practices, there seems to be a gap in the African setting as most studies are focused on developed nations and not emerging economies.

Akpan and Nkanta (2023) investigated the effect of green accounting practices on shareholders' value in Nigeria by drawing samples from listed consumer goods firms on the floor of the Nigerian Exchange Group from 2012 to 2021. Ex post facto design was used, secondary data were employed and least square dummy variable regression was used in analyzing the data. A sample size of 20 companies were determined using Tato Yamane formula and these companies were selected using simple random sampling technique. Green accounting being the dependent variable was proxied by biodiversity disclosure, emission disclosure, waste disclosure, water & effluents disclosure, and compliance to environmental laws & regulations disclosure. The dependent variable of this study was shareholders' value proxied by shareholders' value added (SHVA). The result showed that biodiversity disclosure and compliance to environmental laws disclosures have a positive significant effect on shareholders' value added; water & effluents disclosures have a positive significant effect on shareholders' value added of listed consumer goods firms in Nigeria during the period under study. It was thus concluded that green accounting practices have significant effect on shareholders' value added of manufacturing companies in Nigeria. Therefore, it was recommended among others that compliance to green accounting practices should be made mandatory for all companies because standard green accounting disclosures are signals to all stakeholders that the companies are 'green' and eco- friendly companies and this in turn boost shareholders' value.

Dan Umoren & Ukpong, (2025) examined green accounting and financial performance of listed oil and gas companies in Nigeria. The study used an experimental research design, ex-post facto data extracted from the Nigerian Exchange Group and the annual published financial statement of Nigerian oil companies, a sample size of eight, and a time span of ten (10) years from 2014 to 2023. The study employed unit root testing and descriptive statistics, and it used Panel data regression for the test of hypothesis with the help of E-view statistical software version 9. The study's independent variable is green accounting, as measured by the costs of environmental sustainability, waste management, and environmental cleanup, while the dependent variable is financial performance, as measured by return on capital employed, earnings per share (EPS), and net profit margin (NPM). The study's conclusions showed that there is no substantial correlation between the costs of environmental sustainability,

environmental cleanup, and waste management and return on capital invested, earnings per share, and net profit margin. The study came to the conclusion that green accounting influences the financial performance of Nigerian listed oil companies. It suggested that quoted oil and gas companies increase the amount of economic activity related to the environment and disclose this in their annual reports in order to improve their financial performance and long-term corporate sustainability when making investment decisions. Additionally, the government and authorities must to firmly enforce the disclosure of green accounting in oil corporations' annual reports.

Fadipe, & Aderoju, (2015) examined the impact of Green Accounting (GA) on Corporate Sustainable Development (CSD) in Nigerian listed companies. The study uses a quantitative research methodology, combining secondary data from listed corporations' annual and sustainability reports with primary data gathered from accounting experts using structured questionnaires. To evaluate the connection between CSD and Green Accounting practices, statistical analysis such as multiple regression and correlation were used. The results show that green accounting and sustainable development are significantly positively correlated, meaning that businesses that use eco-friendly procedures, effective resource management, and thorough environmental reporting see improved sustainability results. The paper also emphasizes the moderating effect of business size, which increases the beneficial effects of Green Accounting on sustainability, and the mediating function of corporate governance, since board size tends to promote Green Accounting projects. In light of these conclusions, the report suggests incorporating Green Accounting into business plans and implementing legal incentives to promote CSR initiatives. Businesses may meet stakeholder expectations and improve their contribution to sustainable development by promoting eco-friendly practices, accountability, and transparency. This study emphasizes how important green accounting is to balancing social, environmental, and economic goals in Sub-Saharan Africa.

Kujore & Adegbie (2024) investigated the effect of environmental accounting information disclosure on shareholders' investment decision using earnings per share in listed consumer firms in Nigeria. The E x-post facto research design was adopted in the study over the period 2012 to 2021.The population and sample size of the study was 21 and 16 respectively and purposive sampling technique was adopted. Based on the Global Reporting Index (GRI) 2013 criteria, data were gathered from the annual reports of the sampled firms through secondary method of data collection and multiple regression technique of data analysis was used for analysis. The findings showed that there is a positive and significant effect of community development disclosure and employee health and safety disclosure on shareholders' investment decision making in Nigeria (Adj R2=0,091, F=5.945, p=0.001).The study concluded that environmental accounting disclosure influenced shareholders' investment decision in listed consumer goods manufacturing firms in Nigeria. The study recommended among others, that management of listed consumer goods manufacturing firms should continue to increase community development disclosure and employee health and safety disclosure in order to boost earnings per share which will translate to increased shareholders' investment decision-making because rational investors invest based on informed decision

Aliyu, & Ndah, (2024) investigated the relationship between green accounting and financial performance in Nigeria's oil and gas sector, using environmental prevention costs, oil spillage costs, and oil drilling waste disposal costs as indicators of green accounting, with return on equity as the measure of financial performance. Employing an ex-post-facto research design, the study utilized secondary data from the audited annual reports of nine listed oil and gas companies and the Nigeria Exchange Group Fact Book as at August 15, 2024. The analysis, conducted using SPSS version 27, included basic descriptive statistics, Pearson product-moment correlation, and multiple regression. The results revealed a significant relationship between all green accounting proxies and the return on equity of the listed oil and gas firms during the study period. The study concludes that green accounting has a significant impact on the financial performance of these firms. It is recommended that oil company management develop comprehensive green accounting practices and prioritize spending on environmental prevention, oil spillage, waste disposal, and protection to foster a conflict-free environment conducive to productivity and enhanced financial performance.

Adedipe, Oladeji & Olayiwola (2025) examined the effects of Green Accounting Disclosures (GAD) on the Financial Performance of manufacturing companies in Nigeria to provide better comprehensive insights into manufacturing companies' performance. The study deployed stakeholder theory and longitudinal research design. The population comprised all manufacturing companies in Nigeria and a stratified sampling technique was used to select forty -five (45) samples of the companies for the study. Secondary data was collected from the annual reports and analyzed using multiple regressions. The results of the fixed effect estimation revealed that Tobin q has a t-stat of 0.299 and, a p of 0.031. This indicates that positive GAD contributes significantly to the effective communication and strategic implementation of sustainable practices. Furthermore, the study explored the moderating role of board characteristics, particularly Gender Diversity, in shaping the relationship between GAD and financial performance.

Hutabarat (2024) investigated how green accounting practices, leverage (debt levels), and company size influence profitability and ultimately firm value. The research focused on companies listed in the Jakarta Islamic Index (JII). Previous research on these relationships has yielded mixed and inconsistent results. They pointed out that few studies have examined these variables together in a single model. This study aimed to address this gap by creating a new model that explores the combined effects of green accounting, leverage, and size on profitability, and ultimately, firm value within the JII context. This research is grounded in two key theories: stakeholder theory and signaling theory. While past empirical studies haven't yielded definitive results, this research offers a fresh perspective. The novel model developed in this study builds upon existing knowledge by examining how several previously linked variables interact and influence firm performance. This research employed a descriptive approach, analyzing financial data from company annual reports. To understand the relationships between the variables, a statistical technique called Structural Equation Modeling (SEM) was used. The study focused on companies listed on the Jakarta Islamic Index (JII) of the Indonesian Stock Exchange between 2019 and 2022. A 120-sample size from 30 companies was chosen strategically using a purposive sampling method from the JII. This study found that leverage (debt) and company size have a positive and statistically significant impact on profitability. Interestingly, green accounting practices did not have a clear influence on firm value. There was a negative effect, but it wasn't statistically significant. Firm size itself also did not directly affect firm value in a statistically significant way. However, profitability itself has a strong and positive impact on firm value. Additionally, profitability can act as an indirect factor, mediating the relationship between leverage and firm value. Based on these results, the study recommends that companies listed on the Jakarta Islamic Index (JII) consider strategic use of debt financing. This can be a way to improve profitability and ultimately attract investors, leading to a higher firm value. This research introduces a novel model that investigates the interconnected effects of several variables with proven relationships.

METHODOLOGY

Research Design

This study makes use of *ex-post facto* research design. The researcher employed *ex-post facto* research design due to its special characteristics that events have already occurred, hence there is no need for manipulation or alteration and it is also less costly and less time consuming.

Population

The population of this study was made up of all consumer goods firms that are listed on the floor of the Nigerian Exchange group up to December, 2023. The total number of listed consumer goods firms according to Nigeria exchange rate (NEG) website is twenty one (21), Nigeria Exchange Group (NEG) Website.

Sample Size and Sampling Techniques

The study used purposive sampling technique and selected ten (10) firms out of total population, the selection will be done due to availability of financial statements of firms.

The following are the sampled consumer goods firms listed on the Stock Exchange Group

S/NO	Company	Ticker	Date Incorporated
1	Cadbury nigeria plc.	Cadbury	January 9, 1965
2	Champion brew. Plc. [bls]	Champion	July 31, 1974
3	Dangote sugar refinery plc [cg+]	Dangsugar	January 4, 2005
4	Flour mills nig. Plc. [cg+]	Flourmill	September 29, 1960
5	Northern nig flour mills plc		September 26, 1962
6	Guinness nig plc [cg+]	Guinness	April 29, 1950
7	Honeywell flour mill plc [cg+]	Honyflour	July 9, 1985
8	International breweries plc. [bls]	Intbrew	December 22, 1971
9	Mcnichols plc	Mcnichols	April 26, 2004
10	Nascon allied industries plc	Nascon	April 30, 1973

Source: Nigerian Exchange Group (2024)

Method of Data Analysis

The secondary data collected was analyzed using descriptive statistics, correlation and regression analysis. The descriptive statistics was used to evaluate the characteristics of the data: mean, maximum, minimum, and standard deviation and also check for normality of variables and to check for multi-colinearity, variance inflator factor analysis was also conducted to confirm the multi-colinearity result. Multiple regression analysis was used to evaluate the effect of the independent variables on the dependent variable. It revealed the degree of influence and effect the independent variables has on the dependent variable.

Model Specification

The following model from the study of Oladele *et al.* (2021) will be adapted for the study. The model is specified as follows:

$ROA = \beta_0 + \beta_1 ENV_t + \beta_2 BC_t + \beta_3 EMR_t + \beta_4 CR_t + \Sigma_{it}$……. (2)

Where:

ROA = Returns on Asset
ENV = Environmental Reporting
BC = Board Composition
EMR = Employee Relations
CR = Community Relations

The modified model is shown below as follows:

$SHV_{it} = \beta_0 + \beta_1 BID_{it} + \beta_2 EMD_{it} + \beta_3 WAD_{it} + \beta_3 EPD + \mu_i$…… (3)

Where:

SHV = Shareholders value proxy by earning per share
BID = Biodiversity Disclosure
EMD = Emission Disclosure
WAD = Waste Disclosure
EPD = Environmental Protection Disclosure
β_0 = Intercept
$\beta_1 - \beta_5$ = Coefficients of the independent variables
μ_i = Error term

3.6 Operationalization of Variables

Variables	Measurements/Proxy	Sources
Dependent variable		
Shareholders Values (SHV)	Measures by earnings per share which represents how much money shareholders would receive for each share of stock they own if the company distributed all of its net income for the period	Uwuigbe (2013)
Independent Variables		
Biodiversity Disclosure (BID)	'1' if disclosed, '0'otherwise	Zhang & Lucey (2022); Rahi, Akter, & Johansson (2022)
Emission Disclosure (EMD)	'1' if disclosed, '0'otherwise	Zhang & Lucey (2022); Rahi, Akter, & Johansson (2022)
Waste Disclosure (WAD)	'1' if disclosed, '0'otherwise	Zhang & Lucey (2022); Rahi, Akter, & Johansson (2022)
Environmental Protection Disclosure (EPD)	'1' if disclosed, '0'otherwise	Zhang & Lucey (2022); Rahi, Akter, & Johansson (2022)

Source: Empirical Survey (2025)

DATA PRESENTATION, ANALYSIS AND INTEPRETATION

Descriptive Analysis

The descriptive statistics for the dependent and independent variables used in this study were presented in table 4.1 below:

Table 4.1: Summary of descriptive statistics for the variables employed in this study:

	SHV	BID	EMD	WAD	EPD
Mean	2.708083	0.575000	0.566667	0.641667	0.558333
Median	3.010000	1.000000	1.000000	1.000000	1.000000
Maximum	0.660000	1.000000	1.000000	1.000000	1.000000
Minimum	0.010000	0.000000	0.000000	0.000000	0.000000
Std. Dev.	0.765294	0.496416	0.497613	0.481521	0.498668
Skewness	0.303739	-0.303433	-0.269069	-0.590880	-0.234938
Kurtosis	2.663892	1.092072	1.072398	1.349139	1.055196
Jarque-Bera	2.409990	20.04239	20.02621	20.60949	20.01523
Probability	0.299694	0.000044	0.000045	0.000033	0.000045
Sum	324.9700	69.00000	68.00000	77.00000	67.00000
Sum Sq. Dev.	69.69526	29.32500	29.46667	27.59167	29.59167
Observations	120	120	120	120	120

Source: Researchers' computation (2025) from E-view 9
*Note: *1% level of significance **5% level of significance*

The table shows the descriptive of mean, standard deviation, Jarque-Bera (JB) Statistics normality test, minimum, median and maximum values of the variables used. The study used data for 120 observations of annual reports from the Nigerian Exchange Limited for a period of 12 years spanning 2012 to 2023.

From the table above, the dependent variable is performance of consumer goods firms while the independent variables were- Biodiversity Disclosure (BID), Emission Disclosure (EMD), Waste Disclosure (WAD), and Environmental Protection Disclosure (EPD). As shown in the table 4.1 above, the average or mean value of shareholders value stood at 2.70% while the median value was 3.01 and the standard deviation was 0.76%, the maximum and minimum values stood at 4.51 and 1.01% respectively. The result provided some insight into the nature of the selected consumer firms under study. Firstly, the great difference between the mean and median values of shareholders value shows that the sampled firms differ greatly; this was also reaffirmed by the standard deviation value which indicates that the sampled consumer firms are not dominated by consumer firms whose performance is below average.

It shows that half of the selected firm of the consumer firms sampled has high shareholders value on dependent variables. The variation in the maximum and minimum values of performance of selected consumer firms revealed that our sampled firms are homogeneous and the selected estimation techniques must not take into consideration hetero-scedasticity problem.

This therefore justifies the use of Panel Least Square (PLS) least squared regression techniques. In the same vein, Biodiversity Disclosure (BID) stood at mean value of 0.58% approximately suggesting that half of the consumer firms under study having well structured Biodiversity Disclosure. Furthermore, we observed on the average that emission disclosure in our sampled consumer firm is comprised of 0.57% while the maximum and minimum values stood at 1.0% and 0.0% respectively.

Again, waste disclosure expressed in consumer firms indicates that on average 0.64%, while the medium is 1.0 maximum and minimum is 0.0,, while the standard deviation is 0.48 approximately . Similarly environmental protection disclosure mean is 0.56 with minimum of 0.0 and maximum of a 1.0 respectively.

Lastly, in table 4.1, the Jarque–Bera (JB.) which test for normality or existence of outliers or extreme value among the variables shows that shareholders value (SHV), and at 1% level of significance while Emission Disclosure (EMD), Waste Disclosure (WAD), and Environmental Protection Disclosure (EPD).is normally distributed at 5% level of significance. This means that no variables with outlier, even if there are, they are not likely to distort the conclusion and are therefore reliable for drawing generalization. The descriptive statistics in general revealed that there is no sample selection bias or outlier in the data that would impair the generalization from this study. This also justifies the use of panel Least Square estimation techniques. Hence, any recommendations made to a very large extent would represent the characteristics of the true population of study.

4.2: Correlation Analysis

A square matrix that displays the correlation coefficients between two variables is called a correlation matrix. The strength and direction of a linear relationship between two variables are measured by correlation coefficients. Frequently used in multivariate analysis and statistics, a correlation matrix looks at the relationships between several variables. It is possible to assess the link between two variables by using a correlation matrix: A relationship is strong if the relationship value is 1. The relationship is neutral if the relationship value is 0. In the event that the relationship's value is -1, it is weak or negative.Therefore, in examining the association among the variables, we employed the Pearson correlation coefficient (correlation matrix) and the results are presented in the table 4.2 below:

Table 4.2 Result of Pearson Correlation Matrix

	SHV	BID	EMD	WAD	EPD
SHV	1.000000				
BID	0.104676	1.000000			
EMD	-0.392672	-0.003402	1.000000		
WAD	0.204268	-0.044823	-0.022211	1.000000	
EPD	-0.441212	-0.153608	-0.134331	0.035288	1.000000

Sources: E-VIEW OUTPUT 2025

Shareholders' value is positively connected with two factors, biodiversity disclosure and waste disclosure but negatively correlated with emission disclosure and environmental protection disclosure according to

the correlation matrix table. The aforementioned findings demonstrate that the biodiversity disclosure (SHV/BID=-0.10) and Shareholder value are strongly correlated with biodiversity disclosure. Additionally, there is a high and negative correlation (SHV/EMD = -0.39) between thin Shareholders' and emission disclosure. There is a significant and positive correlation between Shareholders' value and environmental protection disclosure (SHV & EPD) = 0.44.

Biodiversity disclosure rate and emission disclosure are strongly and negatively correlated (BID/EMD=--0.39). Additionally, a substantial and negative correlation was identified between EMD and EPD (-0.39/-044). None of the factors, nevertheless, was discovered to be greater than 0.80. That is, no two exploratory variables had a perfect correlation. Bio-diversity disclosure and waste diversity disclosure were found to have a significant positive impact (BID/WAD-0.10/0.20). The highest correlation is between two variables which are highly correlated with (SHV/EPD=-0.44) which indicate that multi co linearity is not a serious problem that would distort the regression result in the model used for analysis. A close look at the value of the Pearson correlation coefficient results revealed that all the variables are strongly associated with return on assets.

Therefore, in checking for multi-collinearity problem, the study noticed from the correlation table above that no two explanatory variables were perfectly correlated and thereby ruled out the case of having an outlier. This indicates the absence of multi-collinearity problem in the model used for the analysis. This also justifies the use of the Panel Least Square (PLS).

Fixed and Random Effect Test (Hausman Test)

To choose between these two regressions models, Hausman test can be run to examine whether the difference between the random effects regression and the fixed effects regression is zero. In other words, H0: random effect is preferred. Based on the present analysis, Hi was strongly rejected (p-value= 0.000) which means that the random effects model was preferred.

Table 4.4 Fixed and Random Effect Test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.129930	4	0.0063

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
BID	0.218146	0.205430	0.000101	0.2066
EMD	-0.117521	-0.124191	0.000154	0.5915
WAD	0.310844	0.316011	0.000163	0.6861
EPD	0.011054	-0.008383	0.000218	0.1884

Result of Hausman test in Table 4.4 revealed high Chi-Sq. Statistic value to the tune of 3.129930, alongside p-value of 0.0063. Probability value is below 0.05 ($p > 0.05$). Findings revealed a positive and statistically significant result which implies that random effect estimation result is the most efficient and consistent estimation result that can track true nature of the nexus between green accounting practices and shareholders' value of consumer firms. Based on the results of post estimation test carried out, it is established that random effect estimator is appropriate.

Test of Hypotheses and Discussion of Findings

In order to examine the relationship between the dependent variable (shareholders' value) and the independent variables (SHV, BID, EMD, WAD, EPD) and to test the formulated hypothesis, we employed a Panel Regression Analysis since the data had both time series (2012-2023) and longitudinal properties (10 quoted companies) our analysis is presented in table 4.3 below

$SHV_{it} = \beta_0+\beta_1 BID_{1t}+\beta_2 EMD_{1t}+\beta_3 WAD_{1t}+\beta_4 EPD_{1t} + \varepsilon$……1

Table 4.5: Robust Random Effect Model

Dependent Variable: SHV
Method: Panel EGLS (Cross-section random effects)
Date: 03/10/25 Time: 06:43
Sample: 2012 2023
Periods included: 12
Cross-sections included: 10
Total panel (balanced) observations: 120
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.462242	0.209052	11.77811	0.0000
BID	0.205430	0.128737	2.595734	0.0033
EMD	-0.124191	0.128618	-0.965577	0.3363
WAD	0.316011	0.131872	2.396345	0.0182
EPD	-0.008383	0.130597	-0.064191	0.9489

Effects Specification		
	S.D.	Rho
Cross-section random	0.356816	0.2152
Idiosyncratic random	0.681332	0.7848

Weighted Statistics			
R-squared	0.673702	Mean dependent var	1.307296
Adjusted R-squared	0.641482	S.D. dependent var	0.693282
S.E. of regression	0.678750	Sum squared resid	52.98064
F-statistic	9.287512	Durbin-Watson stat	1.859609
Prob(F-statistic)	0.000170		

Unweighted Statistics			
R-squared	0.662263	Mean dependent var	2.708083
Sum squared resid	65.35583	Durbin-Watson stat	1.858971

Source: Author's Computation Using E-views 9 (2025)

A weighted adjusted R-squared value of 0.641482 and a weighted R-squared value of 673702 were given in Table 4.4. This graph indicates that around 67% of the variances in the tested companies' performance might be attributed to the green accounting practices used in the study. The probability value of 0.000170 and the F-statistic of 9.287512 show how well the regression model describes the data. Once more, the model shows that it is still very statistically significant even at 5% levels. In the meantime, the Durbin Watson estimate of 1.859609 shows that autocorrelation has little impact on the model. This suggests that the model is fit for prediction. It is on these bases that, each of the research hypothesis postulated in earlier chapter of this research were tested in the next section of this chapter.

Test of Hypotheses

Ho_1: Biodiversity disclosure has no significant effect on shareholders' value of listed consumer's goods companies in Nigeria.

The regression result in table 4.4 reported a coefficient value of 0.205430, t-statistics value of 2.595734 which is lesser than 1.96 benchmark and a probability value of 0.0033 which is greater than 5% level of significance but lower than 95% confidence level. By implication, the probability value which is greater than 5% level of significance but less than 95% confidence level shows that the Biodiversity disclosure has no significant effect on shareholders' value of listed consumer's goods companies in Nigeria is statistically significant. It is on this basis; the study rejects the null hypothesis one and accepts the alternate hypothesis. As such, the study reaffirmed that; Biodiversity disclosure has significant effect on shareholders' value of listed consumer's goods companies in Nigeria.

Ho_2: Emission disclosure has no significant effect on shareholders' value of listed consumer's goods companies in Nigeria.

The regression result in table 4.4 reported a coefficient value of -0.124191 t-statistics value of -0.965577 which is higher than 1.96 benchmark and a probability value of 0.3363 which is greater than 5% level of significance but less than 95% confidence level. By implication, the probability value which is greater than 5% level of significance but less than 95% confidence level shows that Emission disclosure has significant effect on shareholders' value of listed consumer's goods companies in Nigeria. It is on this basis; the study rejects the null hypothesis two and accepts the alternate hypothesis two instead. As such, the study reaffirmed that; Emission disclosure has no significant effect on shareholders' value of listed consumer's goods companies in Nigeria.

Ho_3: Waste disclosures have no significant effect on shareholders' value of listed consumer's goods companies in Nigeria.

In the case of hypothesis three, the regression result in table 4.4 reported a coefficient value of 0.316011, t-statistics value of 2.396345 which is higher than 1.96 benchmark and a probability value of 0.0182 which is lower than 5% level of significance but greater than 95% confidence level. By implication, Waste disclosures has significant effect on shareholders' value of listed consumer's goods companies in Nigeria., within the periods under review. It is on this basis; the study rejects the null hypothesis three Waste disclosures have significant effect on shareholders' value of listed consumer's goods companies in Nigeria

Ho_4: Environmental protection disclosure has no effect on shareholders' value of listed consumer's goods companies in Nigeria.

The regression result in table 4.4 reported a coefficient value of -0.008383, t-statistics value of -0.064191 which is higher than 1.96 benchmark and a probability value of 0.9489 which is greater than 5% level of significance but less than 95% confidence level. By implication, the probability value which is greater than 5% level of significance but less than 95% confidence level shows that Environmental protection disclosure has no significant effect on shareholders' value in Nigeria is statistically significant. It is on this basis; the study rejects the alternative hypothesis four and accepts the null hypothesis. As such, the study reaffirmed that, Environmental protection disclosure has no effect on shareholders' value of listed consumer's goods companies in Nigeria

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

Conclusion

This study concludes that there is a relationship between green accounting practices and the shareholders' value of consumer firms in Nigeria. There has been growing attention in the corporate world on the impact of corporate activities on the environment. This issue has driven several global bodies to develop measurement indexes for corporate organisations to assess their environmental impact. This study analyses green accounting measures from the perspective of stakeholder and legitimacy theories. The former advocates the role of the firm in meeting the interests of several stakeholders while the latter advocates the instinct of organisations seeking rationalisation for their operations by implementing green

initiatives. The study employed secondary data from consumer firms from 2012 to 2023 to specifically analyse the effect of biodiversity, emission disclosure, waste disclosure and environmental protection disclosure on shareholders' value. The data were analysed using descriptive and inferential statistical techniques with corrections for panel cross-section dependence. The study draws recommendations from the findings of the empirical data analysis. The study finds that improving the quality of environmental information disclosure can effectively boost corporate performance. This study, therefore, provides a research guide to companies in the consumer industry to fulfill their environmental responsibilities, actively disclose biodiversity, emission and other forms of disclosure, and achieve a sustainable competitive advantage and environmental protection. This study chooses the consumer sector as the object of the research to enrich relevant literature in the field of green accounting practices.

RECOMMENDATIONS

The study makes the following recommendations for managers and shareholders of oil and gas firms in the Nigerian context as follows:

1. Biodiversity disclosure has significant effect on the shareholders value of consumer companies operating in the country, these companies still need to do more to improve on their disclosure of such environmental impact consistent with relevant international regulations such as the GRI G.4, etc.
2. The flaring of emission is still the common practice amongst major consumer companies operating in the Nigerian upstream sector. Shareholders should monitor the compliance of managers with the numerous laws and strategies used to reduce GHG flaring and the resulting carbon emissions in the company.
3. Managers should develop a waste pollution system for managing their negative environmental impact on waste which causes pollution as it may reduce firm valuation methods.
4. Managers should adopt environmental protection disclosure in line with international best practices.

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