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EFFECT OF GREEN ACCOUNTING DISCLOSURE AND FINANCIAL PERFORMANCE: A STUDY OF CONSUMER GOODS FIRMS IN NIGERIA

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Abstract

This study determined the effect of green accounting disclosure on financial performance of listed consumer goods firms in Nigeria, using environmental protection disclosure, and waste management disclosure as the independent variables, while earnings per share was used as a proxy for financial performance. *Ex post facto* research design was adopted for the study. A sample of 18 consumer goods firms was used and data extracted from the companies audited annual reports and accounts of the firms from 2013 to 2022. Based on the data tested, the result shows that environmental protection disclosure; and waste management disclosure with firm size as the control variable was significant. Based on this, the study recommended among others, that there should be constant environmental disclosure by the firms to mitigate its environmental impact and promote sustainable practices, this will enable them to share with their stakeholders to demonstrate their commitment toward environmental responsibility.

Keywords: Environmental protection disclosure, Waste management and Earnings per share

Introduction

Green accounting is a type of accounting that attempts to factor environmental costs into the financial results of operations. It has been argued that gross domestic product ignores the environment and therefore decision makers need a revised model that incorporates green accounting. Environmental pollution is one of the problems facing the world today, due to its impact on society, nature and performance (Arumona *et al*., 2021). The phenomenon of environmental pollution has received increasing attention in recent times, especially in light of the industrial progress in the contemporary world and the diversity of sources of pollution, and the attempt of industrial companies, particularly oil and gas firms to get rid of its waste harmful to the environment and people (Onoh *et al*., 2023). As a result of the development of interest in environmental performance as one of the foundations of development in any country, non-use of modern scientific methods that analyze environmental costs and provide detailed information on those costs and the efforts and amounts that companies bear for the purpose of environmental protection will give guaranteed results on the extent of their success or failure (Sanni and Kolawole, 2019). Companies that adhere to green accounting in accordance with governmental regulations and effectively manage environmental concerns have the potential to enhance their environmental

performance, ultimately leading to an improvement in the company's financial performance (Riadi & Aqshal, 2023). Presently, companies in Indonesia are perceived to be inadequately implementing green accounting due to a suboptimal emphasis on environmental considerations and their associated impacts (Widyowati, 2022). As time progresses, a variety of environmental issues have emerged as a consequence of business activities. Communities and non-governmental organizations are encouraging business operators to prioritize their roles and responsibilities toward the environment, rather than solely concentrating on financial aspects. In practical terms, green accounting encompasses a company's business activities and processes related to environmental matters, which are identified, evaluated, quantified, and disclosed within accounting reports, enabling the reporting of incurred costs (Ratusasi & Pengaruh, 2023).

Business competition in the era of Society 5.0, requires companies to continue to develop product innovations, expand business, improve employee performance, in order to continue to survive and be able to compete by having a competitive advantage over other competitors. The company or issuer is expected to be able to manage its finances and non-finances. In addition to profitability, another company goal is to maximize the value of the company for its long-term survival or called going concern. The better the company's performance, the better the company's profitability and will have an impact on the company's value (Ikhsan, 2007). Company value is a description of the state of a company, where there is a special assessment from potential investors. Companies that set aside negative impacts in the form of hazardous waste must pay attention to the surrounding environment. Green Accounting or environmental accounting is part of a company's business activities. Green accounting is a type of environmental accounting that describes efforts to incorporate environmental benefits and costs into economic decision making or a business financial outcome. The importance of environmental accounting basically demands full awareness of companies and other organizations that have benefited from the environment (Kartika & Utami, 2019)

In the specific context of listed consumer goods firms in Nigeria, the importance of voluntary disclosure cannot be overstated. These firms operate in a dynamic and competitive environment, where stakeholders such as investors, customers, employees, and regulators have an increasing need for reliable information. The extent to which consumer goods firms disclose information voluntarily, particularly regarding environmental protection, corporate donations, and employee welfare, can significantly influence stakeholders' perceptions and decisions. The impact of corporate disclosure on the value of the firm has received diverse attention in existent studies as a result of the numerous economic values of such corporate disclosure on the firm.

Given the significance of both voluntary disclosure and financial performance, it is imperative to explore the relationship between these two factors within the specific context of listed consumer goods firms in Nigeria. This study therefore aims to determine the effect of voluntary disclosure on the financial performance of listed consumer goods firms in Nigeria.

Most of existing studies conducted their research on oil and gas companies in Nigeria; Etim, Usen, Obot and Edet (2024); Olaoye and Alao (2023); Cletus *et al*. (2022), also in mining sector (Lusiana, Achmad and Netty (2023). Ordu and Amah (2021) examined sustainability accounting and financial performance of oil and gas companies in Nigeria. Ikpor *et al*. (2019) investigated environmental accounting and sustainable financial performance: Evidence from the Nigerian petroleum industry. There is a limited study in other manufacturing sectors in Nigeria, especially in consumer goods sector, this however, created sectorial gap, besides, and most of the studies ended their research in 2020 and 2021. This study sought to fill the gap by ascertain the effect of green accounting disclosure on financial performance of consumer goods firms in Nigeria from 2013 to 2022.

The primary objective of this is to ascertain the effect of green accounting disclosure on financial performance of listed consumer goods firms in Nigeria. The research is guided by other specific objectives which include:

1. To determine the effect of environmental protection disclosure on earnings per share of listed consumer goods firms in Nigeria.
2. To ascertain the effect of waste management disclosure on earnings per share of listed consumer goods firms in Nigeria.

Review of Related Literature

Green Accounting

Green accounting, also known as green accounting or green accounting, is a type of accounting that seeks to include and relate environmental cost factors to corporate activities. Cohen and Robbins (2021) Green accounting or environmental accounting is defined as: "A style of accounting that includes indirect costs" This means that environmental accounting is a type of accounting that includes indirect costs and benefits from economic activities, such as the environmental and health effects of business plans and plans means decision. Apart from that, environmental accounting is accounting that identifies, measures, evaluates and details. Costs - costs associated with a company's actions towards the environment (Aniela, 2022). Environmental accounting is also similar to a quantitative measurement framework for environmental conservation activities carried out by companies (Suartana, 2021). Green accounting is a method of reporting the impact that a company's management activities have on the environment by including it in financial reports. Ningsih and Rachmawati (2017) Green Accounting, or accounting, aims to link the environmental budget and business operating funds. Green accounting also provides opportunities to reduce energy and natural resources, reduce health risks, and promote competitive advantage for companies. In this way, green accounting is an effort to improve the economics of a company without ignoring the state of the surrounding environment.

Green accounting is carried out by companies to create an evaluation of data in the form of numbers regarding costs and environmental impact. The benefits of environmental accounting concepts for companies facilitate the ability of companies to minimize the environmental problems they face (Nuryanti et al., 2021). Green accounting solutions for companies are a form of corporate responsibility towards stakeholders. This is because stakeholders want to focus not only on financial value, but also on environmental value, that is, whether a company takes into account the environmental impact of its operations. Regulations on Green Accounting are Law No. 2 No. 23 of 1997 on Environmental Management. This law regulates the obligations of everyone who carries out or carries out activities to protect, manage and provide correct and accurate information about the environment (Hamidi, 2019).

Environmental Protection Disclosure

In relation to environmental protection disclosure there is no standard definition and it is left mostly to the discretion of the companies to decide which expenditure or cost should be included under the environmental expenses or costs. For a general understanding of environmental protection disclosure, it can be referred to the voluntary disclosure of a company's initiatives, policies and actions aimed at mitigating its environmental impact and promoting sustainable practices. It encompasses a range of information that consumer goods firms voluntarily share with their stakeholders to demonstrate their commitment to environmental responsibility.

Measuring environmental performance and setting targets is a critical component for organizations to become more productive, more profitable and more sustainable (Friedman & Stiles, 2006). Monitoring key metrics such as energy, waste and water usage leads to reduction in greenhouse gas emissions as well as operational efficiency improvement and cost savings.

When environmental cost is not adequately allocated, cross-funding occurs between

products. In many cases, different products are made by different processes and each process tends to have a different environmental cost (Chris & Burrit, 2013). Protection of environment and the potential involvement of accountant is becoming a common subject of discussion among the accountant all over the world (Pramanik, Shil & Das, 2007). Accountants are expected to take a proactive role in environmental protection process with the advent of liberalization. The cost of environmental degradation due to industrial activities should be internalized in corporate account to the extent possible. That is why environmental accounting and reporting is of paramount importance today.

Clarkson, Richardson and Vasvari (2008) reported that disclosure and transparency are critical elements of a robust corporate governance framework as they provide the basis for informed decision making by shareholders, stockholders and potential investors with respect to capital allocation, corporate transactions and financial performance monitoring. High quality disclosure through its influence on investors and lenders who must assess risks and returns to decide where best to place their money, strengthen the efficiency of capital allocation as well as offer the benefit of reducing the cost of capital.

Waste Management Disclosure

Waste management is the collection, transport, treatment and disposal of waste, (b) control, monitoring and regulation of the production, collection, transport, treatment and disposal of waste, and. (c) prevention of waste production through in - process modifications, reuse and recycling (Hu & Kee, 2022). *Waste management* involves the processes of *waste collection*, transportation, processing, as well as waste recycling or disposal (Liu & Zhang, 2017).

Waste management or waste disposal includes the processes and actions required to manage waste from its inception to its final disposal. This includes the collection, transport, treatment and disposal of waste, together with monitoring and regulation of the waste management process and waste-related laws, technologies, economic mechanisms (Xie*, et al* 2019).

Waste management is intended to reduce adverse effects of waste on human health, the environment, planetary resources and aesthetics. The aim of waste management is to reduce the dangerous effects of such waste on the environment and human health. A big part of waste management deals with municipal solid waste, which is created by industrial, commercial, and household activity .Waste management is an important element of environmental protection. Its purpose is to provide hygienic, efficient and economic solid waste storage, collection, transportation and treatment or disposal of waste without polluting the atmosphere, soil or water system (Molla, et al 2021).

Financial Performance

A company's financial performance is an analysis performed with the purpose of determining how well a company performs its financial activities with reference to ideal financial execution rules (Nurfaidah, *et al*, 2023). Corporate performance is a formal effort undertaken by a company to accurately assess the company's operational activities performed during a particular period or time period. Spit et al. (2021) stated that financial performance is a tool to measure the financial performance of a company through its capital structure. Fahmi (2018) defines financial performance as the analysis performed to ascertain the extent to which a company has properly and accurately implemented its financial implementation rules. Financial performance describes a company's objectives, that is, a company's ability to increase its profits by generating profits. Financial performance is very important to evaluate because it can motivate employees to achieve organizational goals and follow predetermined standards of behavior, thereby generating desired steps and profits. Financial performance is measured through data obtained from a company's financial reports. Financial reports are prepared to describe past financial conditions and are used to predict future financial conditions.

Etim, Usen, Obot and Edet (2024) determined the effect of green accounting practices on

financial performance of oil and gas companies in Nigeria. Desktop approach was employed to discover the review of existing empirical studies conducted in Nigeria on green accounting practices of oil and gas firms between 2013 and 2022. Findings from the reviewed studies indicates that green accounting significantly influenced financial performance of quoted oil and gas firms in Nigeria over the period reviewed. Nurfaidah, *et al* 2023) identify and analyze the impact of green accounting implementation and environmental performance on corporate financial performance of manufacturing companies in the basic industry and chemical sectors on the Indonesia Stock Exchange in2021-2022. Multiple regression analysis was used via SPSS program. Based on the analysis results, it is shown that green accounting and environmental performance variables do not affect the financial performance of companies. Lusiana, Achmad and Netty (2023) analyzed the effect of green accounting, financial performance on company value with profitability as an intervening variable in mining sector companies listed on the IDX in 2018-2021. Data analysis in this study uses SEM (Structural Equation Modeling) analysis using Smart PLS software version 4. The results of this study show that: 1) Green accounting has an influence on profitability; 2) Financial performance affects profitability; 3) Green accounting affects the value of the company; 4) Financial performance affects the value of the company; 5) Profitability has no influence on the value of the company; 6) Profitability cannot mediate between green accounting and company value; and 7) Profitability cannot mediate between financial performance and company value. Riadi and Aqshal (2023) assessed the impact of green accounting, represented by environmental performance (measured by the PROPER indicator), environmental costs, and environmental disclosure (measured by the Global Reporting Initiative indicator), on financial performance (return on assets). The research employed a quantitative approach involving classical assumption testing and analysis of multiple linear regression data for LQ45 mining sector companies listed on the Indonesia Stock Exchange during 2018-2021. The findings of the study revealed that environmental performance, environmental costs, and environmental disclosures did not exert any influence on financial performance. Amalya *et al*. (2023) ascertained the relationship of green accounting on financial performance with environmental performance as a mediation variable.

The purpose of the study was to examine the mediation of environmental performance on the relationship between green accounting and financial performance. The period of the study was from 2019 to 2020 and the key variables of the study were financial performance (dependent variable) measured by return on assets (ROA) and green accounting (independent variable) measured by environmental cost. The sample size of the study was three (3) selected industrial selected from the population of thirty-six (36) industries quoted on Indonesia Stock Exchange (IDX). Data for the study were collected from the annual reports and financial statements of the entities and analysis was conducted using simple linear regression approach. The results indicated that green accounting exerted significant influence on financial performance (ROA) of the entities sampled for the study. Olaoye and Alao (2023) investigated green accounting practices and business health of listed oil and gas firms in Nigeria (2012-2021). This study was carried out to examine the effect of green accounting practice on business health of listed oil and gas firms in Nigeria. The period of the study ranged from 2012 to 2021. Accounting practices in the study being the independent variable was measured by waste management practice disclosure (WMPD), environmental protection practices disclosure (EPPD) and pollution prevention practices disclosure (PPPD) and financial performance which was the dependent variable used in the study was proxied by return on asset (ROA) and earnings per share (EPS). Data for the study were obtained from the financial reports of the entities sampled for the study and the data were analysed using ordinary least square (OLS) technique. The results obtained for the analysis conducted showed that

WMPD had a negative and insignificant influence on EPS. Cletus *et al*. (2022) examined environmental accounting costs and financial performance of selected quoted oil and gas companies in Nigeria. The intention of the researchers was to examine the impact of environmental accounting costs on financial performance of the selected oil and gas firms in Nigeria. The period of the study was from 2000 to 2020 and the key variables of the study were environmental accounting costs (EAC) proxied by environmental pollution prevention costs (EPPC), environmental detection costs (EDC), environmental internal failure cost (EIFC) and environmental external failure cost (EEFC) and financial performance (dependent variable) was measured in terms of return on equity (ROE). To achieve the stated objective, secondary data was obtained from the annual reports and financial statements of Conoil, MRS Oil and Forte Oil. The obtained data were analyzed using both the descriptive and inferential statistics. Results from the regression indicated that EIFC and EEFC had positive and significant influence on the financial performance of oil and gas companies in Nigeria while EPPC and EDC exerted insignificant effect on the financial performance of oil and gas companies in Nigeria.

Thus, it was concluded that the EAC had significantly influenced the general financial performance of oil and gas industry in Nigeria. Ihenyen and Ikegima (2022) determined environmental accounting and organizational performance of listed industrial sector companies in Nigeria. The study aimed to examine the impact of environmental accounting on organizational performance of listed industrial companies in Nigeria. The period of the study was from 2010 to 2020 and the relevant variables used in the study were environmental accounting (independent variable) proxied by waste management cost (WMC), community development cost (CDC) and employed health and safety cost (EHSC) and organizational performance measured in terms of return on asset (ROA), return on equity (ROE) and net profit margin (NPM). To establish the influence of independent variable on the dependent variable, relevant data were extracted from the published annual reports and financial statements of the entities chosen for the study. The data were analyzed using canonical correlations and the results obtained indicated that the environmental accounting (WMC, CDC and EHSC) exerted substantial influence on organizational performance (ROA, ROE and NPM) of listed industrial sector businesses in Nigeria studied. Emmanuel (2021) determined green accounting reporting and financial performance of manufacturing firms in Nigeria. This study examined green accounting disclosure and its effect on financial performance of listed manufacturing firms in Nigeria. The dependent variable of the study was financial performance measured by return on assets (ROA) and return on equity (ROE) and the independent variable of the study was green accounting reporting and the study covered the period of ten (10) years from 2010 t0 2019. Data for the study were obtained from the annual reports of forty (40) out of the sixty-six (66) manufacturing companies whose shares were traded on the floor of Nigerian Exchange Group (NXG) as at 31st December 2019.

Data analysis was conducted using descriptive statistics and the panel regression approaches. From the analysis, it was discovered that green accounting disclosure had direct and material influence on financial performance (ROA and ROE). However, the study also showed that there was a negative influence of green accounting disclosure on share price of manufacturing firms in Nigeria. Ordu and Amah (2021) examined sustainability accounting and financial performance of oil and gas companies in Nigeria. The study was conducted to assess the between sustainability accounting and performance of selected quoted oil and gas companies in within the period of 2012-2017. The dependent variable used in the study was financial performance measured by return on Assets (ROA) and the independent variable of the study was sustainability accounting (SA) proxied with environmental expenditure (ENVSPND). Relevant data for the study were extracted from the annual reports of the entities sampled for the study and the data were analyzed using

correlational design and regression technique. From the analysis, it was discovered that environmental accounting had an insignificant influence on ROA of the oil and gas companies in Nigeria. Ikpor *et al*. (2019) examined environmental accounting and sustainable financial performance: Evidence from the Nigerian petroleum industry. The study was conducted to ascertain the influence of environmental accounting on financial performance. The period of the study was from 1970 to 2017 and the essential variables of the study were environmental accounting (independent variable) measured by environmental operating costs (EOC) and environmental prevention costs (EPC) and financial performance (dependent variable) measured by profit after tax (PAT). The population of the study consisted of forty-eight (48) petroleum companies in Niger Delta and ten (10) out of the 48 companies were sampled for the study. Relevant data for the study were obtained from the published annual reports and financial statements of ten (10) petroleum companies operating in the Niger Delta part of Nigeria sampled for the study. To establish the influence of the independent variable on the dependent variable, data analysis was conducted using ordinary least square (OLS) regression method. From the analysis, it was found that EOC and EPC exerted significant and negative influence on the performance of petroleum firms in Nigeria.

Methodology

Research Design

Ex-Post Facto research design was employ in this study, since the study sought to establish cause-effect relationship and the researcher has no control over the variables under study.

The population for this study consists of the twenty (20) consumer goods manufacturing companies quoted on the floor of Nigeria Exchange Group as at 31st December, 2022. The companies are stated below

S/N	Consumer Goods Companies
1	Dn Tyre & Rubber Plc[Mrs]
2	Guinness Nig Plc[Cg+]
3	P Z Cussons Nigeria Plc.[Cg+]
4	Nigerian Brew. Plc.[Cg+]
5	Unilever Nigeria Plc.[Cg+]
6	Cadbury Nigeria Plc.
7	Golden Guinea Brew. Plc.[Brs]
8	Nothern Nigeria Flour Mill Plc
9	Vitafoam Nig Plc.
10	Flour Mills Nig. Plc.[Cg+]
11	Nestle Nigeria Plc.[Cg+]
12	Nigerian Enamelware Plc.
13	Champion Brew. Plc.[Bls]
14	Nascon Allied Industries Plc
15	Union Dicon Salt Plc.[Brs]
16	International Breweries Plc.[Bls]
17	Dangote Sugar Refinery Plc[Cg+]
18	Honeywell Flour Mill Plc[Cg+]
19	Mcnichols Plc
20	Multi-Trex Integrated Foods Plc[Bmr]

Sample Size and Sampling Technique
Purposive sampling technique was adopted to select the sample size of this study. The sample size of this study consist of eighteen (18) quoted consumer goods manufacturing companies that were continuously listed by Nigerian Exchange Group during the period 1st January 2013 to 2022 and whose financial statements and reports are available and have been consistently submitted to Nigerian Exchange Group for the period of study.

Source of Data
This study employed the use of secondary data. Information was sourced from Nigerian Exchange Group (NGX) fact books, annual reports and accounts of the sampled companies. These variables include; earnings per share as dependent variable, while environmental protection disclosure, and waste management disclosure are independent variables.

Model Specification
The econometric models of the study was adapted from the studies by Ohidoa, Omekhodu, and
Oserogho (2016) as shown below:

$ED_{it} = \alpha + \beta_1 FAGE_{it} + \beta_2 FSIZEit + \beta_3 LEV_{it} + \varepsilon i$

Where;
ED = Environmental Disclosure
FAGE = Firm Age
FSIZE = Firm Size
LEV= Leverage
α = Constant Term
β = Coefficient Term
i = No of firms
t = Time Period
e = Error term

The model was functionally expressed as:
Thus, the researcher modified the model as follows:

$EPS_{it} = \beta_0 + \beta_1 EPD_{it} + \beta_2 FSZ_{it}\ \mu_{it}$ --- i

$EPS_{it} = \beta_0 + \beta_1 WMD_{it} + \beta_2 FSZ_{it}\ \mu_{it}$ --- ii

Where:
$EPS_{i,t}$ = Earnings per share of firm *i* at time *t*
EPD_{it} = environmental protection disclosure *i* at time *t*
WMD_{it} = waste management disclosure *i* at time *t*
$FSZ_{i,t}$ = Size of company *i* at time *t*
β_0 = Intercept coefficient
$\beta_1 - \beta_2$ = Coefficients of independent variables
μ_{it} = The error term which account for other possible factors that could influence
i stands for the *i*th firm (18 companies)
t stands for year *t* (2013-2022) (Ten years)

Measurement of Variables

Variables	Abbreviation	Proxy	Nature	Source/justification
Earnings per share	EPS	Net income – preferred dividend divided by number of share outstanding	Dependent variable	Sierpinska and Jachna, (2004).
Environmental protection disclosure	EPD	If the presence of polluting substances in environmental media were reproted'1' if and '0' if otherwise.	Independent variable	Chris and Burrit, (2013); Pramanik, Shil and Das, (2007).
Waste management disclosure	WMD	If prevention of waste production through in - process modifications, reuse and recycling were reported, '1' if + and '0' if otherwise.	Independent variable	Liu & Zhang, 2017); Xie, Nozawa, Yagi, Fujii & Managi, 2019).

Firm size	FSZ	The natural logarithm of the total assets of the firm	Control variable	Adelopo, Jallow and Scott, (2012), Buallay and Al-Ajmi, (2019), Ahmed Haji, (2015)

Source: *Researchers' Compilation, 2024*

Method of Data Analysis

The analysis of data for this research based on the data collected from publications of the Nigerian exchange Group and the annual reports of the quoted companies. Both the dependent and independent variables were computed from the data gotten from the Nigerian Exchange Group from 2013 to 2022.

Descriptive statistics employed to summarily describe the mean, median, standard deviation, kurtosis and skewness of the study variables. Inferential statistics will also be utilized with the aid of E-Views 9 using regressions analysis: Regression analysis predicts the value the dependent variable based on the value of the independent variable and explains the impact or effect of changes in the values of the variables.

Decision Rule

Accept the alternative hypothesis, if the Probability value (P-value) of the test is less than 0.05 (5%). Otherwise reject.

Data Analysis and Results

Table 1: Descriptive Statistics

	EPS	EPD	WMD	FSZ
Mean	2.015057	10682619	0.800000	35017567
Median	1.986716	5457886.	1.000000	28806612
Maximum	3.179300	59037721	1.000000	59713684
Minimum	1.512564	3752354.	0.000000	27528040
Std. Dev.	0.509256	17000553	0.421637	10639662
Skewness	1.109363	2.660528	-1.500000	1.408857
Kurtosis	3.740297	8.092394	3.250000	3.794621
Jarque-Bera	2.279493	22.60255	3.776042	3.571223
Probability	0.319900	0.000012	0.151371	0.167695
Sum	20.15057	1.07E+08	8.000000	3.50E+08
Sum Sq. Dev.	2.334078	2.60E+15	1.600000	1.02E+15
Observations	10	10	10	10

Source: E-view output, 2024

Table 1 shows the mean (average) for each of the variables, their maximum values, minimum values, standard deviation and Jarque-Bera (JB) Statistics (normality test). The results in table 1 provided some insight into the nature of the Nigerian banks that were used in this study.

It was observed that on the average over the ten (10) years periods (2013-2022), the sampled firms in Nigeria were characterized by positive earnings per share (EPS) (2.015). Also, the large difference between the maximum and minimum value of the environmental protection disclosure (EPD),waste management disclosure (WMD), and firm size (FSZ) show that the sampled firms in this study are not dominated by firms with more earnings per share (EPS). In this table, the Jarque-Bera (JB) which test for normality or the existence of outliers or extreme values among the variables shows that most of the variables are normally distributed at 5% level of significance. This means that any variable with outlier are not likely to distort our conclusion and are therefore reliable for drawing generalization. This also implies that the least square estimate can be used to estimate the pooled regression model.

Test of Hypotheses
Hypothesis 1
Ho1: There is no significant effect of environmental protection disclosure on earnings per share of listed consumer goods firms in Nigeria.

Table 2: Regression analysis between EPS, EPD and FSZ
Dependent Variable: EPS
Method: Least Squares
Date: 04/25/24 Time: 23:16
Sample: 2013 2022
Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.355766	0.267822	1.328367	0.2257
EPD	6.27E-09	4.37E-09	1.436021	0.1941
FSZ	4.55E-08	6.98E-09	6.512451	0.0003

R-squared	0.858334	Mean dependent var	2.015057
Adjusted R-squared	0.817858	S.D. dependent var	0.509256
S.E. of regression	0.217341	Akaike info criterion	0.028625
Sum squared resid	0.330659	Schwarz criterion	0.119401
Log likelihood	2.856875	Hannan-Quinn criter.	-0.070955
F-statistic	21.20602	Durbin-Watson stat	1.188281
Prob(F-statistic)	0.001070		

Source: Researcher's computation through E-view 9.0 statistical package

In Table 2, R-squared and adjusted Squared values were (0.85) and (0.82) respectively. The indicates that all the independent variables jointly explain about 80% of the systematic variations in earnings per share (EPS) of our samples firms over the ten years periods (2013-2022). Table 2 reveals an adjusted R-squared value of 0.82,which represents the coefficient of multiple determinations imply that 82% of the total variation in the dependent variable (EPS) of quoted consumer goods firms in Nigeria is jointly explained by the explanatory variables (EPD and FSZ). The R-squared of 82% did not constitute a problem to the study because the F-statistics value of 21.20602 with an associated Prob.>F =0.001070 indicates that the model is fit to explain the relationship expressed in the study model. The value of adjusted of 82% also shows that 18% of the variation in the dependent variable is explained by other factors not captured in the study model. This suggests that apart from EPD and FSZ, there are other factors that mitigate EPS of quoted consumer goods firms in Nigeria.

Test of Autocorrelation: using Durbin-Waston (DW) statistics which we obtained from our regression result in table 2, it is observed that DW statistics is 1.188281 and an Akika Info Criterion and Schwarz Criterion which are 0.028625 and 0.119401respectively also further confirms that our model is well specified. In addition to the above, the specific findings from each explanatory variable are provided as follows:
The results in table 2 illustrated that environmental protection disclosure has a positive but insignificant effect with earnings per share measured with a beta coefficient (β_1) and t-value of 6.270 and 1.436 respectively and p-value of 0.194, while firm size has a positive and significant effect with earnings per share measured with a beta coefficient (β_1) and t- value of 4.550 and 6.512 respectively and p- value of 0.0003.

Decision

Since the Prob(F-statistic) = 0. 0.001070 of the test and is less than 0.05 (5%), this study upholds that there is a significant effect between environmental protection disclosure and

earnings per share of listed consumer goods firms in Nigeria at 5% level of significance. Thus, null hypothesis is rejected and alternative hypothesis accepted.

Hypothesis 2

Ho2: There is no significant effect of waste management disclosure on earnings per share of listed consumer goods firms in Nigeria.

Table 3: Regression analysis between EPS, WMD and FSZ

Dependent Variable: EPS
Method: Least Squares
Date: 04/25/24 Time: 23:17
Sample: 2013 2022
Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.347395	0.309680	1.121787	0.2990
WMD	0.176541	0.184004	0.959441	0.3693
FSZ	4.36E-08	7.29E-09	5.977965	0.0006

R-squared	0.837915	Mean dependent var	2.015057
Adjusted R-squared	0.791605	S.D. dependent var	0.509256
S.E. of regression	0.232477	Akaike info criterion	0.163274
Sum squared resid	0.378319	Schwarz criterion	0.254050
Log likelihood	2.183629	Hannan-Quinn criter.	0.063694
F-statistic	18.09361	Durbin-Watson stat	1.489126
Prob(F-statistic)	0.001714		

Source: Researcher's computation through E-view 9.0 statistical package

In Table 3, R-squared and adjusted Squared values were (0.83) and (0.79) respectively. The indicates that all the independent variables jointly explain about 78% of the systematic variations in earnings per share (EPS) of our samples firms over the ten years periods (2013-2022). Table 4.2.2 reveals an adjusted R-squared value of 0.79,which represents the coefficient of multiple determinations imply that 79% of the total variation in the dependent variable (EPS) of quoted consumer goods firms in Nigeria is jointly explained by the explanatory variables (WMD and FSZ). The R-squared of 79% did not constitute a problem to the study because the F-statistics value of 18.09361 with an associated Prob.>F = 0.001714 indicates that the model is fit to explain the relationship expressed in the study model. The value of adjusted of 79% also shows that 21% of the variation in the dependent variable is explained by other factors not captured in the study model. This suggests that apart from WMD and FSZ, there are other factors that mitigate EPS of quoted consumer goods firms in Nigeria.

Test of Autocorrelation: using Durbin-Waston (DW) statistics which we obtained from our regression result in table 3, it is observed that DW statistics is 1.489126 and an Akika Info Criterion and Schwarz Criterion which are 0.163274 and 0.254050 respectively also further confirms that our model is well specified. In addition to the above, the specific findings from each explanatory variable are provided as follows:

The results in table 3 illustrated that waste management disclosure has a negative but insignificant effect with earnings per share measured with a beta coefficient (β_1) and t- value of -0.177 and 0.959 respectively and p- value of 0.369, while firm size has a positive and significant effect with earnings per share measured with a beta coefficient (β_1) and t- value of 4.360 and 5.978 respectively and p- value of 0.0006.

Decision
Since the Prob(F-statistic) = 0.001714 of the test and is less than 0.05 (5%), this study upholds that there is a significant effect between waste management disclosure and earnings per share of listed consumer goods firms in Nigeria at 5% level of significance. Thus, null hypothesis is rejected and alternative hypothesis accepted.

Conclusion and Recommendations
This study ascertained the effect of green accounting disclosure on financial performance of listed consumer goods firms in Nigeria, using environmental protection disclosure, and waste management disclosure as the independent variables, while earnings per share was used as a proxy for financial performance.. *Ex Post Facto* research design was adopted for the study. A sample of 18 consumer goods firms was used and data extracted from the companies audited annual reports and accounts.
From the result, it was established that environmental protection disclosure and waste management will firm size as the control variable were significant in general. This shows the extent to which consumer goods firms disclose information voluntarily, particularly regarding environmental protection, and waste management can influence stakeholders' perceptions and decisions. Therefore, the study concludes that green accounting disclosure has significant effect on financial performance of listed consumer goods firms in Nigeria.
Based on the findings of the study, it was recommended as followings;

1. There should be constant environmental disclosure by the firms for mitigating its environmental impact and promoting sustainable practices. This will enable them share with their stakeholders to demonstrate their commitment toward environmental responsibility.

2. Firms should be encouraged in disclosing their donations, as this will demonstrate a genuine concern for societal wellbeing and an alignment with broader ethical values, thereby leading to competitive advantage in the market.

References
Amalya, W. R., Sukoharsono, E. G., and Sidarta, A. L. (2023). The relationship of green accounting on financial performance with environmental performance as a mediation variable. *AEBMR 235*, pp. 5-18.
Aniela, Yoshi. (2022). Peran Akuntansi Lingkungan dalam Meningkatkan Kinerja Lingkungan dan Kinerja Keuangan Perus-ahaan. Berkala Ilmiah Mahasiswa Akuntansi. 1 (1)
Arumona, J., Lambe, I., and Ogunmakinde, I. (2021). Effect of environmental disclosure on financial performance of quoted oil and gas companies in Nigeria. *Bingham University Journal of Accounting and Business*, 1(1): 1-16.
Aryani, L., Hizazi, A., and Herawaty, N. (2023). The effect of green accounting, financial performance on company value with profitability as an intervening variable: Study on mining sector companies listed on IDX for the period 2018-2021. *American International Journal of Business Management*, 6(5): 51-61.
Clarkson, P.M., Li, Y., Richardson, G. D., & Vasvari, F. P. (2008). Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. *Accounting, Organisations and Society, 33*(4-5), 303-327. https://doi.org/10.1016/j.aos.2007.05.003.
Choiriah, S., and Lysandra, S. (2023). Effect of green accounting, quality management on financial performance, and green innovation as moderation variables. *Journal of Economics, Finance and Management Studies*, 6(7): 3534-3542.
Emmanuel, E. (2021). Green accounting reporting and financial performance of manufacturing firms in Nigeria. *American Journal of Humanities and Social Sciences Research*, 5(7): 179-187
Etim O.E., Usen, P. U., Obot A. U. & Edet, J. P. (2024). An exploratory research on effect of green accounting on financial

performance of oil and gas companies in Nigeria. *International Journal of Economics and Financial Management* (IJEFM) 9(1), E-ISSN 2545-5966 P-ISSN 2695-1932 , www.iiardjournals.org IIARD – *International Institute of Academic Research and Development* Page 81

Hamidi. (2019). (Analisis Penerapan Green Accounting Terhadap Kinerja Keuangan Perusahaan. Equilibiria, 6(2), 23–36.

Ikpor, I. M., Enuma, I., and Okezie B. N. (2019). Environmental accounting and sustainable financial performance: Evidence from the Nigerian petroleum industry. *International Journal of Applied Environmental Sciences*, 14(1): 85-93

Ihenyen, J. C., and Ikegima, A. C. (2022). Environmental accounting and organisational performance of listed industrial sector companies in Nigeria. *International Journal of Management and Entrepreneurship Research*, 4(4): 202-212.

Ilelaboye, C. S., and Alade, M. E. (2022). Environmental accounting and financial performance of listed family-owned companies in Nigeria. *International Review of Business and Economics,* 61): 71-82.

Ikhsan, A. (2008). Akuntansi Lingkungan dan Penerapannya. Graha Ilmu

Kartika, S., & Utami, W. (2019). Effect of corporate governance mechanisms on financial performance and firm value with green accounting disclosure as moderating variables. *Research Journal of Finance and Accounting*, 150–158.

Lusiana, A., Achmad ,H., & Netty, H.(2023). The effect of green accounting, financial performance on company value with profitability as an intervening variable (study on mining sector companies listed on IDX For The Period 2018-2021).*) American International Journal of Business Management (AIJBM). ISSN-2379-106X, www.aijbm.com 6(05),(May-2023), 51-61*

Ningsih, W. F., & Rachmawati, R. (2017). Implementasi Green Accounting dalam Meningkatkan Kinerja Perusahaan. JABE (Journal of Applied Business and Economic), 4(2), 149 https://doi.org/10.30998/jabe.v4i2.2142

Nguyena, L. S., and Trana, M. D. (2019). Disclosure levels of environmental accounting information and financial performance: The case of Vietnam. *Management Science Letters*, 9: 557-570.

Onoh, U. A., Biradawa, K., and Ndubuisi, O. C. (2023). Sustainability Reporting and Firm Value of Listed Oil and Gas Companies in Nigeria. *Journal of Development Economics and Finance*, 4(1): 177-223.

Olaoye, C. O., & Alao, O. R. (2023). Green accounting practices and business health of listed oil and gas firms in Nigeria (2012-2021). *Asian Journal of Economics, Business and Accounting,* 23(18): 73-88.

Ordu, P. A., & Amah, C. O. (2021). Sustainability accounting and financial performance of oil and gas companies in Nigeria. *International Journal of Innovative Finance and Economics Research,* 9(1): 182-197.

Riyadh, H. A., Al-Shmam, M. A., Huang, H. H., Gunawan, B., & Alfaiza, S. A. (2020).The analysis of green accounting cost impact on corporations financial performance. *International Journal of Energy Economics and Policy,* 10(6), 421–426.

https://doi.org/10.32479/ijeep.9238

Riadi, S. & Aqshal, A. (2023). Green accounting disclosure and financial performance: evidence from the mining sector. Proceedings of the International Conference on Applied Science and Technology on Social Science 2023 (iCAST-SS 2023), Advances in Social Science, Education and Humanities Research 817, https://doi.org/10.2991/978-2-38476-202-6_104

Ratusasi, M. L. Pengaruh Penerapan Green Accounting Terhadap Kinerja Perusahaan Sektor Pertambangan Dan Industri Semen Yang Terdaftar Di Bei Pada Tahun 2015-2018. Jurnal Ilmiah Mahasiswa FEB 9.2, 5(1), 1–19. https://jimfeb.ub.ac.id/index.php/jimfeb/article/view/7183 (2021).

Sanni, M., and Kolawole, K. D. (2019). Influence of environmental accounting on the performance of pharmaceutical companies in Nigeria. *Entrepreneurial Journal of Management Sciences*, 6(1): 27-40.

Tahun 2017-2019. *Jurnal Akuntansi Dan Bisnis Krisnadwipayana,* 9.

Widyowati; Damayanti. (2022). Dampak penerapan faktor green accounting terhadap profitabilitas perusahaan manufaktur peserta proper yang listing Di Bursa Efek Indonesia Tahun 2017-2019. Jurnal Akuntansi Dan Bisnis Krisnadwipayana, 9.