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Corporate Financial Attributes and Waste Disposal Cost Disclosure of Listed Industrial Goods Companies in Nigeria

Kabiru Shuaibu[1], Abdullahi Muhammad Jikan-Jatum[2], Abubakar Yusuf [3], Nasiru Muhammed[4]
Department of Accounting, Gombe State University, Nigeria [1,2,3 &4]

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ABSTRACT: *This study examines the impact of corporate financial attributes on waste disposal cost disclosure (WDCD) of listed industrial goods companies in Nigeria from 2013-2020. A sample of ten (10) companies listed as industrial goods using census sampling technique was drawn from the population of thirteen (13) companies. Audited annual reports and accounts were used for data extraction. The analysis was done using descriptive statistics and multiple regressions. Explanatory research design was adopted in the study to find out the impact of corporate financial attributes on WDCD. Variables used include firm size, leverage, ROA and sales growth and WDCD measured using ordinal coding scheme based on GRI guidelines (G4). Robustness tests such as multicollinearity test, heteroscedasticity test, normality test and Hausman specification test were conducted to validate the results. The study revealed that there is negative significant relationship between FSIZE, LEV, SGWRT and WDCD while negative insignificant relationship between ROA and WDCD of listed industrial goods companies. The study therefore, recommends that the federal government of Nigeria should make WDCD mandatory especially among industrial good companies considering the nature of their activities polluting the environment. This can be done by making environmental reporting as part of the requirements for listing companies on the floor of Nigerian stock exchange*.

KEYWORDS: firm size, leverage, ROA, sales growth, WDCD

INTRODUCTION

The issue of solid waste contributing to climate change is among the greatly substantial transnational concern of any government toward designing environmental policies to minimize the level of waste and its negative impact on the environment. Continuous economic growth, urbanization and industrialization lead to fastest increases of hazardous waste. The global cost of solid waste management will rise from $205.4 billion to about $375.5 billion in 2025. Cost

increases will be most severe in low income countries including Nigeria. the world cities generate about 1.3 billion tons of solid waste per year and this volume is expected to increase to 2.2 billion tons by 2025 (What a waste, 2012).

According to the national policy of the environment revised of 2016 reported that the total amount of domestic waste per annum in Nigeria is about 63million tones (0.45kg/capital/annum) and 70% is dumped in unsafe places. In general, the volume of solid wastes is overwhelming urban administrators' capacity to plan, evacuate and dispose wastes. Much of the generated waste is either burned or dumped haphazardly in illegal landfills or streets, where it creates health hazards and block drains contributing to urban flooding.

These attitudes lead to the degradation of the environment and create a breeding ground for pathogens which could cause serious health problem and the exposure to poorly disposed food wastes leads to health hazards due to the decaying matter which provides suitable material for harmful insects, rats and other creatures to thrive and rapidly aid the cause and spread of diseases including cholera, diarrhea, dysentery, guinea worm and typhoid fever. For example, according to the latest situation report on cholera by the Nigeria Centre for disease and control (NCDC) in 2023 no fewer than 1,336 suspected cases of cholera including 79 deaths have been recorded in 12 states in Nigeria. Furthermore, improper disposal of solid waste can also lead to the contamination of soil, which can result in land pollution. This can also damage vegetation, reduce agricultural productivity and harm the environment. And hazardous materials such as chemicals, batteries and electronics waste can pose a significant threat to the environment if not properly managed. They can cause harm to human life, wildlife and the environment if not well disposed.

According to the national emergency management (NEMA) in 2019 floods had displaced approximately 1.9 million Nigerians and the country recorded 158 fatalities and no fewer than 129,000 persons were affected in 2020 and at least 69 lost their lives in flood disasters because of solid waste blocked drainages. In addition, Nigeria has been ranked as the 10^{th} most vulnerable countries to climate change in 2018 and the Nigeria's total Greenhouse emissions (GHG) are 492.44 million metric tons of carbon dioxide equivalent (MtC2e) totaling 1.01% of global GHG emissions.

The agitations for clean and safe environment have given rise to increasing clamors for environmental accounting disclosure legislations in not just developed countries, but also in developing countries, including Nigeria. Existence of environmental disclosure legislations would propel the listed companies operating in both sensitive (non-financial) and the less-sensitive (financial and other service) sectors to disclose more information on their operations. Owing to the importance of environmental safety or protection, the industrial companies are expected to respect the environment and, based on the global best practices, disclose enough (qualitative) environmental information even in the situation of non-existence of accounting standard and compelling legislations.

Literatures shows that various local and international bodies such as the United Nations (UN) and its agencies, accounting professional bodies and other Non-Governmental Organizations (NGOs) such as Global Reporting Initiative (GRI), business in the community (BITC) have advocated for special attention to be given to environmental issues in society at large and in developing countries (UNEP, 2011). These efforts include calls for international policies and research in environmental issues. For instance, at the united nations conference on environment and development (UNCED,2012), calls were made for special attention to be given to developing nations in terms of environmental pollution control, protection, management and reporting. The conference also recommended that strategies be put in place to assist those developing countries suffering from environmental problems. A similar call was made at the UNCED conference held in Brazil in 2012, where members re-affirmed their commitment to tackling environmental problems in developing countries through research and other strategies.

In Nigeria, various efforts have been put in place to tackle the issue of environment such as the National Environment Protection Agency (FEPA) set up in 1988 to manage the increasing concern of waste management in Nigeria. Vision 2010 was for FEPA try to address environmental problems in the country that would lead to sustainable development. Others are Ministry of Environment, Federal Environmental Protection Agency (FEPA), and Niger Delta Development Commission (NDDC). At the State level, environmental agencies include State Environmental Protection Agency, (SEPA) and Ministry of Agriculture and Natural Resources while local governments operate through the Department of Community Development, Department of Agriculture and Forestry.

The studies conducted in the context of Nigeria have identified environmental pollution problems to the activities of many companies across the country such as the studies of khalid, Hassan and Kouhy, 2017; Shuaibu 2020; Zayol, Akpa, Thegba and Abraham, 2021). However, the UNEP (2011) report indicated that many Nigerian companies are not giving environmental issues proper consideration as part of their corporate responsibility. Nigeria has been recognized for its economic and political contribution at both global and African levels (Oba and fodio, 2012). This has made it interesting to investigate, especially regarding how Nigeria has been accounting for the environment in terms of regulating, monitoring, preventing and reducing carbon emissions together with other factors that lead to the disclosure of environmental information and other corporate environmental issues in the country.

According to Adekoya and Ekpenyong (2009), the inherent weaknesses of regulatory framework, inadequate resources for enforcing legislative requirement, insufficient environmental awareness and advocacy, absence of reputable professional bodies and environmental rights groups and inadequate commitment to acceptable environmental disclosure by Nigerian companies have been identified as the factors responsible for poor corporate environmental performance and reporting in Nigeria. Disclosing of environmental information in Nigeria is voluntary but there are some laws that protect the environment such as federal solid and Hazardous Waste Management

Regulations Act, (1991) the law makes it an obligation for industries to identify solid hazardous wastes which are dangerous to public health and the environment and to research into the possibility of their recycling. Harmful waste Act of 2004. The Harmful Waste Act prohibits, without lawful authority, the carrying, dumping or depositing of harmful waste in the air, land or waters of Nigeria.

In Nigeria, environmental disclosure by companies has been faced with challenges including lack of accounting standard for environmental reporting and lack of legislation for mandatory disclosure of environmental information. Environmental information reporting in Nigeria has remained a voluntary and discretional activity. Goyal (2013) noted that there is a lot of variation in environmental disclosure practices all over the world due to inexistence of international accounting standard exclusively dealing with environmental issues in annual reports.

Most of the previous studies on ED such as (Benjamin, Okpanachi, Nyor and Muhammad 2017; Elshabasy 2018; Sulaiman, Aruwa and Musa,2018; Shuaibu *et.al* 2019, Zayol, *et.al*, 2021) measured the level of disclosure using unweighted approach and the present study used ordinal coding scheme to measured quality of WDCD based on GRI where a scale of 0-3 was adopted such that if there is no disclosure on WDCD 0 is recorded, however, if there is WDCD not in line with the GRI guideline a score of 1 is recorded, if WDCD by companies is partway with the GRI guideline a score of 2 and lastly if WDCD is wholly the same with GRI guideline a score of 3 is recorded

Most of the previous studies in Nigeria that examine the relationship between firm characteristics and environmental reporting such as (Abubakar,2017; Sulaiman, Aruwa and Musa,2018; Shuaibu, *et.al*, 2019, Shuaibu, 2020) considered ED in general and the present study focused specifically on WDCD.

Based on the forgoing, the following are the research questions raised:
i.What is the impact of firm size on WDCD of listed industrial goods companies in Nigeria?
ii.How does leverage impact on WDCD of listed industrial goods companies in Nigeria?
iii.How does profitability (ROA) impact of WDCD of listed industrials goods companies in Nigeria?
iv.To what extent does sales growth impact WDCD of listed industrial goods companies in Nigeria?

The remainder of the paper is organized as follows: Section two (2) provides literature on corporate financial attributes and WDCD and previous researches about these concepts. Section three (3) presents methodology of the study. Section four (4) Presents results and discussions and lastly section five (5) discusses conclusion and recommendations alongside practical and social

Concept of Corporate Financial Attributes

Corporate financial attributes or firm characteristics refers to the attributes which a firm possess that defines its activities (Shuaibu, Ali and Amin, 2019). They are the key drivers that shape a company's financial decision and other policies that a company adopts. Various studies in the literature have reported factors that determine the nature, quantity (volume), and quality of environmental disclosure. Notable among these factors are the industry type, firm size, leverage, corporate governance mechanism and profitability and this study focused on the environmental drivers such as firm size, leverage, profitability(ROA) and sales growth.

Firm Size

Size of a firm refers as the quantity and variety of service area an entity can provide to its clients. Such services are usually produced on economies of scale. Large firms have comparative advantage over smaller firms as large firms enjoy low cost of production (Shuaibu, *et.al*, 2019). The firm size has therefore form part of the core variables in most studies on firm's characteristics and environmental disclosures.

Firm Leverage

Leverage is the ratio of total liabilities to total assets. It is the proportion of debt to equity in the capital structure of a firm (Andrikopoulos and Kriklani, 2013). Firm with much leverage use more debts in financing its business than its own capital. Low leveraged companies mean such entity employ less of loaned out capitals in its processes. The level of gearing of a firm influences its level of corporate environmental disclosures. It is argued that as firm debt (leverage) increases, the investors' monitoring demand for information also increases to keep themselves informed about operating performance of the company, including environmental performance.

Profitability

As a performance measure, ROA is generally considered as good internal management ratio because it measures profit against all the assets an organization uses to make those earnings (Alkababji, 2014). Agency theory stated that managers with high level of profit discloses information in relation to environment in order to compete with their counterparts. Similarly, stakeholder theory added that profitability is one among many factors that induced companies revels information concerning environment with a clear aim of attracting investors.

Sales Growth

sales growth is calculated by subtracting preceding year's sales and dividing the figure by the proceeding year's sales (Umoffong, 2020**).** Sales growth is observed as a major determinant of performance in any firm. It has always been the objectives of firm to multiply sales proceeds to a have a higher financial performance. One would therefore, expect that high growth should be associated with higher profitability.

Waste Management Cost Disclosure

Waste is material originating from animal and human activities, and when discarded as useless and unwanted, it attracts pathogens. Ngwakwe (2018) defines waste management as the processes put in place by an organization to reduce, eliminate and ideally prevent negative environmental impacts resulting from its commitment to the environment. It includes the management of all processes and resources for the proper handling of waste materials, from the maintenance of waste transport vehicles and landfill facilities to compliance with health and environmental regulations. Expenses incurred for proper disposition of toxic waste, hazardous gas or industrial waste in the environment must be disclose by businesses. Firms spent millions of Naira on installing machines that will reduce pollution within an environment waste and emission control cost includes costs for handling treatment and disposal of waste and emissions; remediation and compensation costs related to environmental damage, and any control related regulatory compliance costs Gbaraba, Eric, and Jacob, (2022).

LITERATURE REVIEW

Zayol, Akpa, Thegba and Abraham (2021) investigates the relationship between firm characteristics and corporate environmental disclosure by Nigerian listed companies. Data were collected from the annual reports and accounts of companies listed on the Nigerian Stock Exchange for the period of 2009 to 2018. The independent variable is firm characteristics proxy by firm size, firm leverage, firm age, audit firm size and the dependent variable was environmental disclosure measured using content analysis of environmental information disclosed by listed Nigerian companies. The study used expo facto research design and panel regression in analyzing the data extracted. The findings of the study revealed that environmental disclosure by listed companies in Nigeria is low but show a steady increase over the study period. The finding of the study also revealed that age of the firm and leverage are positively and significantly related to the level of corporate environmental disclosure by the less- sensitive listed companies in Nigeria. In addition, firm size and size of audit firm are positive but insignificantly related to environmental disclosure.

Similarly, Shuaibu (2020) examines the influence of firm characteristics on environmental disclosure quality of listed cement companies in Nigeria. Firm age, firm size and firm leverage was used as a proxy for firm characteristics and GRI was used in measuring environmental disclosure. The study adopted descriptive statistics, correlation and multiple regression analysis. The sample size of the study is made up of three listed cement companies quoted on the Nigerian stock exchange as at 31 December 2017. The study used secondary data sourced from the annual reports and accounts of the sampled firms for the period of five years (2013-2017). Data was analyzed using descriptive and explanatory design. Findings of the study revealed that firm age firm size and leverage has significant impact on the quality of environmental disclosure of listed cement companies during the study period.

In Malaysia, Setiany (2020) examines the impact of firm characteristics on environmental disclosure of listed non-financial companies. The firm characteristics in this research include profitability, company size, and leverage. This research is quantitative research on non-financial listed companies in the year of 2017. The sampling method is purposive sampling. The final samples consist of 27 listed companies from Indonesia, 17companies from Malaysia, and 49 companies from Singapore. Multiple regression analysis is performed to analyze the data. The result shows that firm profitability and size positively influence environmental disclosure, leverage shows insignificant relation.

Atang and Eyisi (2020) examines the determinants of environmental disclosures of listed manufacturing firms in Nigeria. The data for the study was gotten from a sample of 22 listed firms in the industrial sector. Ex post facto research design was adopted for the study and multiple regressions was used in analyzing the data. Descriptive and inferential statistics were used to generalize the results and conclude the findings. The result showed a beta value 0.018 for cost of sales. This mean an increase in the profitability of manufacturing firms will lead to a 1.8% increase in the environmental disclosure of the company. The result also revealed that board composition influenced about 13% of the variation in the environmental disclosure of manufacturing firms in Nigeria. While on the other hand auditor type contributed only 5.6% of the changes in the environmental disclosure of the manufacturing firms in Nigeria. It was therefore concluded that profitability, auditor type, board composition and firm size jointly influenced the environmental disclosure of manufacturing firms in Nigeria. It was recommended that the regulatory bodies should initiate policies that will make the disclosure of environmental information compulsory in Nigeria. Also, the external auditors should also persuade their clients to disclose information relating to the environment as this has an impact on their reputation.

Mohamad, Rahayu, Kaujan and Irwandi (2020) examines the impact of various factors on the quality of environmental disclosure. The study focused on factors related to the strategy and vision of the firm (environmental audit, presence of an environmental committee), diversity of and within boards (independence of the board, gender diversity) and factors related to the environment (environmental performance, degree of pollution of the company). The study used a sample of French listed companies in SBF120 for the period 2009–2014. The study found that quality of disclosure remains relatively low. In addition, the findings indicated that a company's strategy and vision (environmental audit), diversity in boards (gender diversity) and environmental performance play significant roles in explaining variations in quality of environmental disclosure.

Sulaiman, *et.al*, 2018 examines the effect of firm characteristics on environmental disclosure of listed oil and gas companies in Nigeria. The population of the study is 12 firms, while the sample of the study is 10 firms on Nigerian Stock Exchange for the period from 2010 to 2016. Firm characteristics were proxies by firm size, firm age and profitability while binary codification was used for natural wealth disclosure. The study used panel binary logistic regression to analyze the

data while descriptive statistics and correlation matrix made the pre-regression analyses. The study found that firm size and firm profitability have negative but insignificant relationship with natural wealth disclosure while firm age has positive significant relationship with natural wealth disclosure. From the findings, it was concluded that both firm age firm size has effects on natural wealth disclosure of listed oil and gas firms in Nigeria.

Similarly, Abubakar (2017) studies the influence of firm attributes on environmental disclosure of listed breweries companies in Nigeria. The population of the study consists of five breweries companies listed on the floor of Nigerian stock exchange. Data were collected from annual reports of the selected companies for the period of five years that is from 2012 to 2016. Multiple regression technique was employed to analyze the data. Profitability (PROF), firm size (FRMS), leverage (LEV) and board size (BDS) were used as proxies to measure the firm attributes. While contents analysis was maintained to measure environmental disclosure. The study found board size has negative but significant influence on environmental disclosure, leverage has negative and insignificant influence on environmental disclosure. Where firm size has positive insignificant influence on environmental disclosure, profitability has positive significant influence on environmental disclosure of listed breweries companies in Nigeria.

Khalid, Kouhy and Hassan. (2017) examines how corporate characteristics could influence the amount of corporate social and environmental disclosure (CSED) in the manufacturing sector in Jordan. Firm size, profitability, audits firm, ownership, type of industry and financial market level are the main factors examined in this study. Drawing from Ernst and Ernst methodology, the study developed a disclosure index to measure the amount of CSED for three years (2010, 2011 and 2012). Using panel data regression, the results of the model indicated that the firm size, type of audit firm and financial performance in Annual Stock Exchange (ASE) are significantly associated with the amount of CSED whereby, firm profitability, age, type of industry and ownership are not related to the practices of CSED.

Egbunike and Tarilaye (2017) examines the association between firm's specific attributes (firm size, earnings, leverage and governance) and voluntary environmental disclosure with evidence from listed manufacturing companies in Nigeria. Data of firm size, earnings, leverage and governance were obtained from the annual reports and accounts of some selected manufacturing companies during 2011-2015. Data collected were analyzed using both descriptive and inferential statistics. First, it was revealed that some of the studied manufacturing companies have high leverage profile while some with low leverage profile. In addition, some companies' environmental items were not disclosed in their annual reports and accounts while some were disclosed and described in monetary terms and that there is a positive relationship between environmental disclosure, firm size, leverage, earnings per share and governance of the studied manufacturing companies in Nigeria.

Theoretical Framework

However, in examining company attributes and environmental disclosure several theoretical perspectives have already established the notion that organizations need to engage in CSR activities and report such activities. The political economy theory does not solely focus on the self-interest of firms and wealth maximization, rather it considers the political, social and institutional framework with which the organization operates. It can be deduced that political economy suggests that corporate environmental disclosure is a proactive device or measure put in place by management to mediate, suppress, mystify and prevent social conflict from occurring. Therefore, the study anchored on the political economy theory because it best explains the variables in the study.

METHODOLOGY

The study embraced explanatory research design to examine the nexus between the independent variable (corporate financial attributes) and the dependent variable (WDCD). Data for the study is therefore extracted from the annual reports and accounts of companies in the industrial goods sector listed on the floor of the Nigeria stock exchange as at 31st December 2020. The population of the study comprises of all the companies in the industrial goods sector listed on the floor of the NSE as at 31st December 2020. There are thirteen (13) industrial goods companies listed as at 31st December 2020 as listed as
shown in the table below;

Table 3.1: Population of the Study

S/N	Companies	Year of Listing
1.	Austin Laz and Company PLC	2012
2.	Berger Paints	1967
3.	Bata Glass PLC	1986
4.	Chemical and Allied Product PLC	1957
5.	Cement Company of Northern Nigeria PLC	1993
6.	Cutix PLC	1987
7.	Dangote Cement PLC	2010
	Greif Nigeria PLC	1979

8.		
9.	Lafarge Africa PLC	1959
10.	Meyer PLC	1979
11.	Notore Chemical Industries PLC	2018
12.	Portland Paints and Products Nigeria PLC	2009
13.	Premier Paints	1995

Source: NSE Daily Official Listing, 2020.

Sample Size and Sampling Technique

The study adopted census sampling technique where all the members of the population are considered. However, only ten companies are considered as the sample size of the study due to the nature of how each company pollute the environment. The companies used as sample size of this study are listed on table 3.2 below:

Table 3.2: Sample Size of the Study

S/N	Companies	Year of Listing
1.	Berger Paints	1967
2.	Bata Glass PLC	1986
3.	Chemical and Allied Product PLC	1957
4.	Cutix PLC	1987
5.	Dangote Cement PLC	2010
6.	Greif Nigeria PLC	1979
7.	Lafarge Africa PLC	1959
8.	Meyer PLC	1979
9.	Portland Paints and Products Nigeria PLC	2009
10.	Premier Paints	1995

Source: NSE Daily Official Listing, 2020.

Variables and their Measurements

There are two sets of variables used in the study, namely, dependent and independent variables. Table 3.2 shows the sources and the measurement of the variables.

Table 3.2: Variables of the Study and their Measurement

Variables	Abbreviation	Measurement and Source(s)	
Dependent Variable			
Waste disposal cost disclosure	WDCD	When the WDCD consistent fully with GRI When the WDCD partially consistent with GRI Presence of WDCD not in compliance with GRI No information on WDCD As used by Nguyen and Tran, (2019), Shuaibu, (2020)	3 2 1 0
Independent Variable			
Firm Size	FSIZE	Log of total asset as used by Shuaibu, *et.al*, (2019).	
Firm Leverage	LEV	Leverage is measured as the Total debt divided by total asset as used by Shuaibu, *et.al*, (2019).	
Profitability (ROA)	ROA	measured as the net income divided by total asset as used by Dhar and Ashraful ,(2021).	
Sales Growth	SGWRT	Subtracting preceding year's sales from current year's sales and dividing the figure by preceding year's sales as used by Umoffong, (2020).	

Source: Generated by the Researcher from Empirical Literature, 2022

Model specification

The study adopts the model used in the study of Shuaibu, (2020) with a modification as shown below:

$WDCD_{it} = \alpha + \beta_1 FSIZE_{it} + \beta_2 LEV_{it} + \beta_3 ROA_{it} + \beta_4 SGWRT_{it} + +\mathcal{E}i$

Where;

WDCD = Waste Disposal Cost Disclosure

FSIZE = Firm Size

LEV= Leverage

ROA = Return on Asset

SGWT= Sales Growth

α_0= Parameters to be estimated (is the average amount the dependent variable increases when the independent increases by one-unit, other independents variables held constant).

$\beta_1 - \beta_4$= Partial derivatives or the gradient of the independent variables.

$\mathcal{E}$ = An error term assumed to satisfy the standard OLS assumption

i = Firm

t = Time

RESULT AND DISCUSIONS

This section discusses the outcome from the descriptive, correlation and the regression analysis.

Diagnostic Test of Independent and Dependent Variables

Multicollinearity, Heteroskedasticity, Hausman specification tests were conducted to appraise and straighten up the reality and trustworthiness of the data. The result from the multicollinearity test shows the dearth of multicollinearity as the variance inflation factor (VIF), test value is smaller than 5 in the model of the study. The mean of the entire VIF test in the model is 1.17 which proved that is less than 10 and there is no multicollinearity. Furthermore, the ability of independent variable to predict dependent variable is not negatively affected by relationship among independent variables in the study. The result from the heteroscedasticity test reveals the presence of heteroscedasticity in the ordinary least squares regression results in the model (0.0000) this indicates that the variability of error terms is not constant, and this can affect inferences in respect of beta coefficient, coefficient of determination (R2), t-statistics and F-statistics of the study and to correct this the data for the dependent variable (WDCD) has been transfi

Table 4.1: Descriptive Statistics of the Variables

VARIABLES	OBS	MEAN	STD.DEV	MIN	MAX
WDCD	80	.0476974	.4928283	-.2648026	1.735197
LEV	80	1.873396	9.764646	.056869	87.7205
FSIZE	80	10.53731	.7442668	8.03376	11.6836
ROA	80	.272515	10.49859	-54.3955	20.3934
SGWRT	80	-1100001	9838699	-8.80e+07	13.4058

Source: Generated by the researchers using STATA 11.1

Table 4.1 reports the descriptive statistics of firm characteristics (LEV, FSIZE, ROA, SGWRT) and waste disposal cost disclosure (WDCD). The table also portrays that the number of observations for each variable is 80. This represents the 10 sampled companies with the study period of 8 years. The mean value of the dependent variable (WDCD) of the study shows a value of .047 with a minimum value of -.264 and maximum of 1.73. This indicate that there is variation among the data during the study period.

Regarding the independent variables, LEV with an average figure of 1.87 with standard deviation of 9.76 and minimum and maximum value of .056 and 87.7 proportionately. While the average figure of FSIZE which is measured by Log of total asset is 10.5 with a minimum and maximum value of 8.03 and 11.6 proportionately with standard deviation value of .744. For the ROA has an average figure of standard deviation, minimum and maximum value of .272, 10.4, -54.3 and 20.3

proportionately this shows that the ROA of the sampled industrial companies differs significantly during the study period. Furthermore, SGWRT portrays an average figure of -110 with standard deviation of 983 and minimum and maximum value of -8.80 and 13.4 which indicated that sales growth during the period of the study varies significantly.

Table 4.2: showing correlation matrix of WDCD and LEV, FSIZE, ROA, SGWRT

VARIABLES	ED	LEV	FSIZE	ROA	SGWRT
WDCD	1.0000				
LEV	-0.0432	1.0000			
FSIZE	-0.4647	-0.1905	1.0000		
ROA	-0.1525	0.0126	0.2180	1.0000	
SGWRT	-0.1579	0.0118	0.1300	0.4466	1.0000

Source: Generated by the researchers using STATA 11.1

The values of the correlation coefficient from table 4.2 above range from -1 to 1. The sign of the correlation coefficient indicates the direction of the relationship (positive or negative), with one indicating strong positive relationship and -1 strong negative relationship. In between two extreme values moderate and weak relationship as well as no relation at all. The sign (-) indicates negative correlation and positive otherwise. The correlation coefficients on the main diagonal are 1.0, because each variable has a perfect positive linear relationship with itself.

From table 4.2 the relationship between WDCD and LEV with the value of -0.0432 shows a weak negative correlation. FSIZE has a moderate negative correlation with WDCD with a coefficient of -0.4647. WDCD has a negative weak correlation with ROA a correlation coefficient of -0.1525. SGWRT has a weak negative relationship with WDCD with a coefficients value of -0.1579. From the table above, it can be deduced that all the explanatory variables are negatively correlated means they all move in the opposite direction.

The result from the Hausman specification test reveals the p value of 0.0000 means that is greater than 5 which indicated that fixed effect is more suitable as the p-value of the model in the study is significant i.e less than 5%. but the heteroscedasticity shows that coefficient of the error term is not constant for the explanatory variables; therefore, the study corrected this by applying the panel corrected standard error regression (PCSEs).

Regression Result on LEV, FSIZE, ROA, SGWRT and WDCD
Table 4.3 presents the PCSEs Regressions result

Variables	Coefficients	t	p>/t/
LEV	-.0067064	-4.01*	0.000
FSIZE	-.3157006	-4.50*	0.000
ROA	-.0002797	-0.06*	0.951
SGWRT	-4.60e-09	-1.92***	0.058
CONS	3.381918	4.43	0.000
R-squared	0.2023		
P-Value			0.000

Source: Generated by the researchers using STATA 11.1
*, **, *** Indicates significant@ 1%, 5% and 10% respectively

The cumulative adjusted R^2 is 20% (0.2023) which gives cumulative effect of all independent variables jointly on the dependent variable. This means that 20% of the variation in the WDCD is caused by LEV, FSIZE, ROA, and SGWRT while 80% of the variation in WDCD is caused by other factors not considered in the model of the study. This indicates that the model is fit and the explanatory variables are carefully selected considering the p-value of 0.0000.

Table 4.3 shows that LEV and FSIZE has a negative and significant impact on WDCD at 1% level of significance, while ROA has a negative and insignificant impact on WDCD and lastly SGWRT also shows a negative and significant impact on WDCD at 10% level of significance. This implies that when there is change in LEV, FSIZE, ROA and SGWRT of listed non-financial companies in Nigeria, the WDCD will also be affected by the change negatively.

LEV shows a negative but significant relationship with WDCD means that for any increase in LEV there will be a decrease in WDCD of listed industrial goods companies during the study period. This implies that debt capital played significant role on environmental disclosure in industrial goods companies in Nigeria. The requirements for providing information concerning environment to meet the demands of the stakeholders is also higher. However, firms with higher debt ratios often faced challenges financial and solvency, so according to cost and benefit theory, it is very hard for them to make decision and policies about environmental issues. The greater the leverage, the dangerous for the company as there are interest and other expenses payments to be made. These are to be paid irrespective of the level of operating profits. According to stakeholder theory, conflict of interest arises among major stakeholders when the leverage is high. The negative relationship supported the findings of Abubakar, (2017) but against that from Setiany, (2020) and Zayol, et.al, (2021).

The result from the table shows that FSIZE has a negative but significant impact on WDCD. This implies that as firm increases in size this would definitely affect WDCD negatively. This is because

having large size of the firm may lead to slow decision making which may cause damages to the firm including releasing information concerning environment not on time because of difficulty in taking decision as a result of increase in the size of the firm. The result of the study does not agree with the economies of scale theory that larger firm have the many advantages over smaller firms. The finding coincides to the findings of Sulaiman, *et.al*,(2018) and the result is not in line with the study of Shuaibu, (2020). The conflict in the findings may be as a result of variance in the process of obtaining the firm size and the study period.

The table also shows a negative insignificant relationship between ROA and WDCD of industrials listed companies in Nigeria during the study period implying that an increase in profitability reduces the volume of WDCD. Profitability is negatively related to the environmental disclosure level indicating that companies have a strong focus on economic performance as opposed to a wider corporate responsibly perspective. This suggests that managers are prioritizing economic performance over environmental matters. Even though some studies argue that management of profitable firms are usually motivated to disclose more information in order to show off good reputation to their stakeholders, the findings of this study do not support such assertion and indeed a contrary position may exist in the Nigerian context given the negative coefficient in the estimated results. The finding is in line with the findings of Sulaiman, *et.al*,(2018) and against the study findings of Shuaibu, (2020) .

And lastly SGWRT also shows a negative significant impact on WDCD of listed industrial listed companies in Nigeria during the study period. This implies that companies in the Nigerian industrial goods sector with higher sales have lower environmental disclosure during the study period this may be as a result of the attention of the management of the industrial goods companies is on making profit not on matters concerning environment because disclosing environmental information come with a cost the reason why this study documented a negative relationship between sales growth and environmental disclosure. The finding of the study is like the findings of Umoffong, (2020)

CONCLUSION AND RECOMMENDATIONS

Conclusion

The following conclusions are drawn from the findings of the study:

i. The findings of the study reveal that LEV has negative significant influence on WDCD among listed industrial goods companies in Nigeria.

ii. The findings of the study reveal that FSIZE has negative significant influence on WDCD among listed industrial good companies in Nigeria.

iii. The findings of the study reveal that ROA has negative significant influence on WDCD among listed industrial good companies in Nigeria.

iv. The findings of the study reveal that SGWRT has negative insignificant influence on WDCD among listed industrial good companies in Nigeria.

Contribution of the Study

This study has contributed to the current literature on the impact of corporate financial attributes on WDCD of listed industrial goods companies in Nigeria. Furthermore, the contribution to knowledge that this study made is that the study employed ordinal coding scheme to measured quality of WDCD based on GRI on each performance indicator was scored to obtain WDCD for each company, therefore, a scale of 0-3 was adopted such that if there is no disclosure on WDCD 0 is recorded, however, if there is WDCD not in line with the GRI guideline a score of 1 is recorded, if WDCD by companies is partway with the GRI guideline a score of 2 and lastly if WDCD is wholly the same with GRI guideline a score of 3 is recorded.

Practical Implications

Practical contributions that the research may make is that the findings may be of use to the government and other regulatory authorities like the Federal and states Ministries of environment, National environment standards and regulation enforcement agency (NESREA) and federal environmental protection agency (FEPA) as they need information to assess the level of environmental practices in Nigeria to enable them to re-assess the existing laws so as to make amendments where possible and/or promulgate new laws, and to analyze environmental issues from different aspects in the country.

Social Implications

The study aids in creating awareness about the consequences of not managing solid waste properly and when such information is disclosed that enhances stakeholder trust and thus improves their reputation among consumers, investors and communities.

Recommendations

The following are the recommendations that are made based on the findings of the study;

i. The management of Nigerian listed industrial goods companies should ensures that larger firms focus on implementing targeted waste disclosure practices. This may involve allocating resources specifically for waste management reporting disclosure.
ii. The management of Nigerian listed industrial goods companies should review their leverage levels. Therefore, depending on the business strategy of each period, listed industrial companies in Nigeria should have reasonable level of financial leverage.
iii. The management of Nigerian listed industrial goods companies should have a comprehensive understanding of waste related expenses and metrics to measure their effectiveness.
iv. The management of Nigerian listed industrial goods companies should invest in waste management system and technologies that can help monitor, track and manage waste effectively.

v. The federal government of Nigeria should make environmental reporting mandatory especially among industrial good companies considering the nature of their operation as its hazardous to the host community. This can be done by making environmental reporting as part of the requirements for listing on the stock exchange.

Limitations and Future Directions

This study focused on industrial goods companies only, However, future studies on this area should consider other sectors of the economy especially in the listed non-financial companies in Nigeria such as the consumer goods companies, heath care firm, oil and gas etc. Since their operations is hazardous to the host communities and consider other firms financial attributes not covered by the study. Furthermore, the study considered only waste cost disclosure ignoring other aspects of environmental disclosure such energy disclosure, mineral disclosure and biodiversity cost disclosure etc.

Competing Interests

Authors have declared that no competing interests exist.

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