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EFFECT COMMUNITY DEVELOPMENT COST ON THE FINANCIAL PERFORMANCE OF LISTED CONSUMER GOODS FIRMS IN NIGERIA.

Agbola, Oyeniyi Joshua
Department of Accounting
Bingham University
Karu, Nasarawa State
Email: agbolaoyeniyi@gmail,com, Phone No: +8034446183

Daniel, Emmanuel Kayode, PhD
Email: emmyfordaniel@yahoo.com, Phone No: +234 8076345086

Arumona O. Jonah PhD.
Email Jonaharumona@yahoo.com Phone Number +234 7034684686.

ABSTRACT

Environment plays an important role for organization to achieve its goal. This study therefore examined effect of community development cost on financial performance of listed consumer goods firms in Nigeria. The ex-po facto research design was adopted. The secondary data from annual report of listed consumer goods firms was used. The purposive sampling techniques was employed in selecting the sixteen (16) firms out of twenty one (21) consumer goods firms in Nigeria for 2013-2022 financial year. Panel regression technique was used to analyze the data with the help of E-views 12. The result showed that waste management cost and environmental remediation cost have negative effect on return on capital employed of listed consumer goods firms in Nigeria. This study concluded that waste management cost and environmental remediation cost have negative and insignificant effect on return on capital employed of listed consumer goods firms in Nigeria. Based on the finding, the study recommends that management of listed consumer goods firms in Nigeria should have positive disposition towards community development cost and also disclose more of these information in their annual report.

Keywords: Community development, waste management, environmental remediation, financial performance

INTRODUCTION

Financial performance is generally used as an indicator of a company's financial health over a given period of time. The financial performance determines the results of a firm's corporate strategies or operation in accounting numbers for decision making (Babatunde 2020). Financial performance is measured to give the account of stewardship by the management team to the shareholders. The key aspect of this involves measuring the profitability, market value and growth prospect of a company (Magara *et al.*, 2015). Financial Performance is the measurement of the achievement of entities goal, illustrating the financial strength of firms, represented by earnings (Galant & Cadez, 2017). Financial performance also measures the ability of a firm to create profit or revenue (Fatihudin *et al.*, 2018). It also measures the financial health of a company over a period of time (Naz *et al.*, 2016).

Return on capital employed (ROCE) is a measure of firm's profitability and shows how well a company is generating profits from its capital. Capital includes both debts and equity. ROCE is an indicator of a company's efficiency and capital utilization. Return on Capital Employed is calculated as profit before interest and taxes (PBIT) divided by the capital employed. After all, equity owners and providers of long term liability combined have claims on the assets of the firm. This measure of financial performance is considered the best as it shows the earnings power of a firms taking into account the interest of all stakeholders. A return on capital employed shows the efficiency and profitability of a company's capital investment. It is one of the best important operating ratios that can be used to assess the corporate profitability. It is expressed as percentage and can be vary revealing about the industry in which a company operates. As a general rule, a firm with high return on capital employed will probably be a very profitable business.

Community development, an aspect of organizations social responsiveness holds that companies have a duty towards the society and business decisions should be linked to ethical values and respect for individuals, society and environment. Thus, organizations as corporate citizens are expected to give back to the society especially communities where they operate (ICAN, 2014). Community development aligns with the philanthropic expectation placed on organizations at any given time. Oti *et al* (2017) emphasized that community development is anchored on firm's initiative at cushioning the effect of their externalities on the host communities. Disclosure on community developments costs depict a firm in good light and convince stakeholders that an organization performs its operations ethically. Dessy and Rosita, (2015) posited that utilizing local labour in a community as a form of job expansion strategy is very important as it reduces labour cost incurred by the company and impacts positively on the community.

In terms of gap, most studies carried out on community development cost and financial performance pay more attention to oil and gas companies. Others pay attention on manufacturing companies with emphasis on industrial goods firms. This gives room for further research using different institutions and sectors. In this study, the consumer goods firms listed on the Nigeria Exchange Group as at 31st December, 2022 are used. With reference to methodology gap, most of the studies reviewed such as Filky *et al.*, (2021), Ndifon (2020), Ekemezie & Okafor (2020), Tochukwu (2018), Sanyaolu *et al* (2018), Olasupo and Akinsulure (2017) carried out on the effect of environmental cost on financial performance used time series data and as such employed the ordinary least square method of data analysis and SPSS statistical tools (Peter & Mbu- Ogar 2018) and Okere *et al.*, 2021). The time series data suffered from some shortcomings among which are: it does not address the individualistic effect of the sampled companies in view of their respective uniqueness. It does not also explain wide range of complex problems. A more robust analysis could be conducted using panel data that enrich empirical analysis in ways that may not be possible if only cross- section or time series data is used.

The diverse submissions by prior scholars informed this study definitely due to the usage of diverse research methodologies, the different period covered, nature of variables considered, availability and nature of data used, diverse justification and sector of study, different sample composition and diverse measures of environmental information disclosure employed. Against this backdrop, the study sought to examine the effect of community development cost on the financial performance of selected consumer goods

firms listed on the Nigerian Exchange Group to validate the existing studies. This is the knowledge gap that drives this study.

The basic hypothesis underlying this study are stated thus.

H_{o1}: Waste management cost has no significant effect on return on capital employed (ROCE) of listed consumer goods firms in Nigeria.

H_{o2}: Environmental remediation cost has no significant effect on return on capital employed (ROCE) of listed consumer goods firms in Nigeria.

LITERATURE REVIEW

Community Development Cost

Community development costs are those costs incurred by the company from origination to execution of a project in the host community. Community development costs are cost incurred by companies operating in the community to finance developmental projects within and outside the host communities (Nwameke *et al.*, 2019). For instance, some companies carry out their corporate social responsibilities by building or renovation of hospital, bridges, schools and other important projects that affect the life of people of the society positively. Community development, an aspect of organizations social responsiveness holds that companies have a duty towards the society and business decisions should be linked to ethical values and respect for individuals, society and environment. Thus, organizations as corporate citizens are expected to give back to the society especially communities where they operate (ICAN, 2014). Community development aligns with the philanthropic expectation placed on organizations at any given time Carrol, (1991). Also Oti et al (2017) emphasized that community development is anchored on firm's initiative at cushioning the effect of their externalities on the host communities. Disclosure on community developments costs depict a firm in good light and convince stakeholders that an organization performs its operations ethically.

Waste Management Cost

Waste management is a globally challenging issue especially in developing countries due to its adverse environmental effects (Agbo *et al* 2017). Hossain (2016) stated that waste management cost covers treatment and how waste will be managed, pollution, reparation, resourcing cost, and conservation cost. It also covers regulatory enforcement cost like penalties and insurance. Waste can be referred to as unwanted materials. Waste is a material, substance or by- product eliminated or discarded as no longer useful or required after the completion of a process Nwabueze, (2015). Examples of waste include municipal solid waste (household trash / refuse), hazardous waste, waste water (such as sewage which contains bodily wastes (feaces and urine) and surface runoff), radioactive waste and others. Wastes are substance or objects which are disposed off or are intended to be disposed or are required to be disposed of by the provisions of national law (Emmanuel & Ifeanyichukwu, 2021). The production and management of waste is a strategic issue for all countries, since it has social, economic and environmental implications. Environmental practices include such practices like recycling, eco design, clean production and reuse with the aim of minimizing expenses regarding the manufacturing, distribution, use and disposal of products (Amahalu *et al.*, 2017).

Environmental Remediation Cost

Remediation cost means all costs associated with performing work to remediate contamination of real property or groundwater, including engineering and other

professional fees and expenses, costs to remove, transport and dispose of contaminated soil, costs to "cap" or otherwise contain contaminated soil, and costs to pump and treat water and monitor water quality (Bartolomeo *et al.*, 2012). Environmental Remediation also means all costs and expenses of actions or activities to cleaning up or removal of hazardous materials from the environment; preventing or minimizing the further movement, leaching or migration of hazardous materials in the environment; preventing, minimizing, or mitigating the release or threatened release of hazardous materials into the environment, or injury or damage from such release, and comply with the requirements of any environmental laws. Environmental remediation costs include, without limitation, costs and expenses payable in connection with the foregoing for legal, engineering or other consultant services, for investigation, testing, sampling, and monitoring, for boring, excavation, and construction, for removal, modification or replacement of equipment or facilities, for labor and material, and for proper storage, treatment, and disposal of hazardous materials (Burnett & Hansen 2017).

Financial Performance

Financial performance is a measure of how much a company has the ability to create profit or revenue (Fatihudin 2018). It also measures the company's financial health over a period of time (Naz *et al* 2016).Financial performance also involves the monetary measurement of a company's policies and operations. It generally measures a company's total financial health over a certain period of time and may be utilized in comparing similar companies in the same industry or industries or sectors as a whole (Kinyua *et al.*, 2015. Several ratios have been used in literature to measure performance (Asuquo *et al* 2018) for example, return on asset (Adjound & Amar 2015; Gelb, 2017; Kowaleski, 2014; Menike, 2020) net asset per share (Brockman, 2015; Nahiba, 2017; Omaliko, Nweze & Nwadialor 2020) return on equity (Erhinyoja & Marcella, 2019; Polycarp, 2019) earnings per share (Agbiogwu *et al* 2016; Ahmed *et al* 2016; Nwabueze, 2015; Polycarp, 2019). Harash, *et al.*, (2014) opined that financial performance can be measured in several ways including through the company's return on investment (ROI), return on assets (ROA) and return on sales (ROS), which are all subjective measures on how the company can utilize its main assets for generating revenue. The financial performance was measured by Return on Capital Employed (ROCE) in this research work.

Return on Capital Employed (ROCE)

Return on capital employed indicates the efficiency and profitability of a company's capital investment. It is one of the most important ratios that can be used to assess corporate profitability. Return on capital employed is calculated as the profit before interest and taxes (PBIT) scaled by capital employed (shareholders' equity plus long term liabilities) as at the end of the financial year under investigation. It is expressed as a percentage and a firm with a high return on capital employed will probably be a very profitable business. According to Pandian (2015), returns reflect the entire efficiency of a company's capital investment. The returns on capital is a key measure of business performance because it expresses the link between the net profit before interest and tax generated over time and the average long term capital invested in the business.

Firm Size

Akinyomi and Olagunju (2013) state that firm size has been recognized as an essential variable in explaining organizational profitability and number of studies have tried to explore the effect of firm size on profitability. Furthermore, based on this concept, the

firm size is a factor in determining the firms' profitability and reveals a positive association between size and firm's profitability by some experts. Firm size refers to the size of the business unit. It can also be seen as the volume of operation carried out by a single firm. Firm size is most important to its achievement as a result of economies of scale phenomenon. Firm size serve as the moderating control variable for this study to enhance the internal validity of the study by limiting the influence of confounding and extraneous variables and to also establish a causal relationship between the variable of interest.

Empirical Review

Toma and Yunusa (2023) examined the impact of environmental and social disclosure on return on asset of listed oil and gas companies in Nigeria. The study used ex-post factor research design using the population size of all the thirteen (13) oil and gas companies and eight (8) of those companies made up the sampled population. The study used three variables, the dependent, independent and control variable. Return on asset is the dependent variable, environmental and social disclosure are the independent variable while firm size and firm age are the control variable. The study used secondary data sourced from annual report and account of the sampled companies for the period 2010 to 2019. Findings revealed that environmental and social disclosures have negative impact on return on asset (ROA) of listed oil and gas companies in Nigeria. The study concluded that environmental disclosure had a significant negative effect on return on Asset of listed oil and gas companies in Nigeria. The study recommended that there should be proactive effort from policy makers like National Environmental Standards and Regulations Enforcement Agency and other standards setting bodies to introduce a standard framework for mandatory disclosure of corporate environmental information. However, the major weakness of the study is that it recommended that regulatory agency should introduce a standard framework for mandatory disclosure without talking of the companies to be responsible to their host communities which this study will address.

Dinda and Dian (2022) investigated the impact of the disclosure of carbon emissions and environmental performance on firm value. The study used quantitative methods and the secondary data was obtained from the published financial reports by the Indonesia Stock Exchange, sustainability reports, annual reports published through the company's website, and the Ministry of Environment and Forestry's Decree. Multiple linear regression was used to test the hypothesis while the sample is seven companies on the SRI-KEHATI index from 2016-2020 (5 years). This study finds out that carbon emission disclosure has no effect on the firm's value and the environmental performance positively affects the firm value. The study concluded that the carbon emission disclosure and environmental performance positively affects firm's value. It was recommended that companies as carbon emitters must show their responsibility towards the environment by reducing carbon emissions and the companies need to disclose their carbon emission and have good environmental performance. The major weakness of this study is the years of coverage (2016 -2020) which is considered too short for a meaningful analysis and may not give the correct result. This weakness will be resolved in this present study as it covers from 2012 to 2022 which reflect current situation.

Akinleye and Olaoye (2021) examined community development cost and financial performance of oil and gas firms in Nigeria. The study analyzed the effect of community development cost on return on asset of selected oil and gas firms. Data were analyzed

using panel based estimation techniques and evaluations were done for the most consistent and efficient result based on restricted F-test and Hausman test. The study found out that a unit increase in community development cost by 1 billion naira led to insignificant increase in return on asset by 0.7%. By implication this result showed that increase in the level of community development cost of oil and gas firms in Nigeria significantly influenced the performance of oil and gas firms as measured in terms of return on asset. This study concluded that engagement in community development in Nigeria by oil and gas firms has the potential to culminate into improved corporate performance; however, such potential is yet to be fully harnessed by most of the oil and gas firms in Nigeria. The study recommended that oil and gas firms in the country, should be more objective in their engagement in community development in the country, so as to further boost their performance potential. The weakness of the study is that the analysis was based on only six listed oil companies which did not represent the entire oil producing companies in Nigeria which is too narrow and would lead to inconsistent result. The gap created by this study will be resolved in the present study as it will include most of the listed consumer goods firms for meaningful analysis.

Okore (2021) examined the effect of environmental cost on the performance of some selected manufacturing firms in Nigeria using return on asset as a proxy for performance. Environmental training cost, donations and charitable cost, waste management cost and corporate social responsibility cost were used as proxy for environmental cost. Data were collected from the annual financial statement of the selected firms over the period of 2011 to 2020 and the ex-post facto research design was adopted. Stationarity of the data were tested using the Augmented Dickey Fuller unit root test statistic and the data were analyzed using the Panel Least Square. Findings from the study showed that, environmental training cost, donations and charitable cost, waste management cost and corporate social responsibility cost had positive and significant impact on return on asset of manufacturing firms in Nigeria. The study concluded that environmental cost had positive and significant effect on the performance of manufacturing firms in Nigeria. The study therefore recommended that manufacturing firms should invest in environmental training, donations and charity, waste management and remain socially responsible to the host communities to ensure smooth and uninterrupted operations. The study is relevant because it captures variables of interest to this research and its recommendations are good but failed to mention the regulatory framework to ensure government effective supervision is important in ensuring the implementation. This present study will include the government regulatory framework

Arumona *et al.*, (2020) examined the effect of environmental disclosure on financial performance of quoted oil and gas companies in Nigeria using panel series data and regression analysis approach. The independent variable is proxied by research and development cost and estimated future expenditures while dependent variable is proxied by net profit margin and return on asset. The secondary data obtained from the annual reports of 12 oil and gas companies quoted on the floor of the Nigerian Exchange Group (NSE) for 10 years ranging from year 2010-2019 were used. The study adopted the E-view as a statistical tool for analysis with focus on Ordinary Least Square (OLS) regression method. The study found that Environmental Disclosure has positive and statistically significant effect on Financial Performance of quoted oil and gas companies in Nigeria during the period under review. The study concludes that Environmental Disclosure contributes immensely to Nigerian's oil and gas firms to increase financial performance

and profitability as well as provide a springboard that can enable the country at large to emerge as an environmental friendly nation. It is recommended, amongst others that, since Nigerian economy is highly dependent on the oils and gas resources, the continued insistence on full compliance to every form of best practice in the oil and gas sector (including full environmental disclosures), is of great and immerse benefit to the industry players, oil and gas firms, the economy at large and to the citizenry of the country. The study is relevant to the current study but its weakness is data used from 2010-2019 and it only used Ordinary least square as regression method, this present research will cover the period from 2012 to 2022 which will address current environmental issues.

Abbass *et al.*, (2020) investigated the impact of environmental cost on the financial performance of industrial companies in Iraq. The time series data was collected from 25 companies chosen from the annual financial report and economic review of the Iraqi stock exchange (ISX) and oil sector for the period of 2014 to 2018. The statistical tool used for data analysis is the special package for social sciences SEM- AMOS and SPSS version 23. The statistical analysis results indicate that conventional cost has a positive and weak correlation with financial performance; likewise, no correlation was found between image and relationship costs and financial performance. The findings of this study contribute to the existing body of knowledge concerning the effect of environmental costs on the financial performance of industrial firms particularly those in the oil sector and listed on the Iraqi Stock Exchange, as most Iraqi studies had neglected to examine the impact of environmental costs on the financial performance of companies in these sectors. The study concluded that with sustainable development receiving growing attention, environmental cost and resource accounting have emerged as crucial mechanisms in driving both company profitability and environmental conservation. The study recommended that the managements of industrial companies should establish efficient environmental costing systems so as to ensure a corporate environment that is free of conflict which would ultimately lead to better corporate financial performance. The weakness of the study is that it focused on the situation in Iraq and the time series data used was from 2014- 2018 and this present research will focus on Nigeria and cover the period up to year 2022 which is more current.

Tochukwu (2018) ascertained the effect of environmental costs accounting and reporting on firm financial performance: a survey of quoted Nigerian oil companies. The study made use of financial reports of Oil and Gas Companies quoted in the Nigerian Stock Exchange Market from years 2006-2015. Regression analysis was employed with the aid of Statistical Package for Social Sciences (SPSS). The results of the statistical analysis indicate that better environmental performance positively impact business value of an organization. Moreover, environmental accounting provides the organization an opportunity to reduce environmental and social costs and improve their performance. The study concluded that the spending on issues that concerns the environment boosts the performance of quoted oil companies in Nigeria. The study recommends that those at helm of affairs of these oil companies should increase their involvement in environmental activities for improved and sustainable performance. However, the major weakness of the literature is that it used time series that is not exceeding 2015, while this study will capture data for 2022 which is more current.

Oraka and Egbunike (2016) appraise environmental accounting information in the financial statements of consumer goods manufacturing companies in Nigeria. The study

made use of descriptive research design. The study centered on consumer goods companies, a total of 28 companies were identified in that category. However, the study only made use of twenty-two companies whose annual report were readily available as at the time of this research. The study finds that there is a significant difference in the environmental disclosure themes of consumer goods manufacturing firms. Also, there is a significant effect of environmental disclosure on total asset turnover and returns on equity, however no significant effect was found for cash flow ratio, current ratio, and returns on assets of the manufacturing companies. The study concluded that environmental accounting disclosure practice in developing countries like Nigeria is still very ad-hoc, general, self-laudatory and voluntary in nature. The study recommends a detailed and well spelt out environmental disclosure theme and evidence must be established to provide firm foundation for corporate social and environmental disclosures among companies. The gap in the study is that no clear method of estimation was stated.

Ofoegbu and Aminortse (2016) examined the influence of firm characteristics on the quality of corporate environmental accounting information disclosure (CEAID) in the Nigeria manufacturing companies. Ex-post facto and content analysis research designs were adopted. The study collected panel data for seven year period covering 2008-2014 from the annual reports of 10 quoted selected manufacturing firms. The study applied the use of Weight Average Environmental Disclosure Index to measure the quality of CEAID based on financial disclosure. The pooled panel data least square regression model was used to estimate the influence of the independent variable on the dependent variables. The results showed that firm financial performance has a significant impact on the quality of CEAID, but firm size had no impact on the quality of CEAID. The study concluded that voluntary CEAID alone would not enhance the quality of CEAID in the manufacturing firms in Nigeria. The study recommends that regulatory authorities and policy makers should promote the establishment of a standard reporting guideline that will ensure that the environmental reporting is done. The study made use of only seven years and only ten quoted companies to represent the entire manufacturing companies in Nigeria, the years and companies selected are too small for meaningful analysis and the method of selection was not stated, these created gap for this present study.

Theoretical Framework

Stakeholder Theory

Stakeholder theory was developed by Dr. Edward Freeman in 1984. Stakeholder approach identifies and models the groups which are stakeholders of a corporation, and both describes and recommends methods by which management can give due regard to the interests of those groups. The basic suggestion of the stakeholders theory is that the firm's achievement is reliant on the proper management of all the interactions that a firm has with its stakeholders, without the support of the groups, the organization would cease to exist (Bassey *et al* 2013). Stakeholders can be defined as any individual or group who can influence or is influenced by the actions, decisions, policies, practices, or goal of the firm (Nduke & John (2015). The core concern of the stakeholder theory in environmental accounting is to address the environment cost elements, valuation and its inclusion in the financial statements. Horisch *et al.*,(2014) posit that stakeholder theory also states that companies should disclose more about the environmental costs (conventional costs, potentially hidden costs, contingent costs, image, relationship costs

and social costs) as an additional factor to attain effective company governance mechanisms to overcome the conflicts between managers and other stakeholders.
This theory relates to this study in the sense that the decision of the company on the environmental matters can influence the host community. Stakeholder theory states that all the stakeholders should be put into consideration and their interest be considered. Various stakeholders can influence or be influenced by the decision of the company on environmental issues.

Legitimacy Theory
Dowling and Pfeffer developed the legitimacy theory in 1975. Legitimacy theory states that for a corporation to continue to exist it must act in congruence with society's values and norms. The theory suggests that businesses are only legitimate if they act within the boundaries of society's norms and values and that they have responsibility to act in the public interest. Maurer (2012) points that legitimacy is the process whereby an organization justifies its right to exist; that is to continue, import, transform and export energy material or information. Legitimacy theory is a system oriented theory which proposes that organizations interact or influence and can be influenced by the environment (employees, suppliers, creditors, regulators, government and host communities) where it operates (Deegan 2002). Organizational survival and growth depends on the acceptance of these social systems. According to Tilling 2004), legitimacy theory offers a powerful mechanism for understanding voluntary social and environmental disclosure made by corporations, and that this understanding would provide a vehicle for engaging in critical public debate. Lawan (2016) cited Dowling and Pfeffer (1975) posits that organizations continually seek to ensure that they operate within the bounds and norms of their respective societies.

This research work is underpinned by legitimacy theory as it argues that organization seek to ensure that they function within the confines and norms of society. Consistent with the notion of legitimacy theory, companies seek to gain, maintain or repair their legitimacy by using social and environmental reporting. Legitimacy theory provides useful insights for corporate social and environmental disclosures, (Gehan & Naser, 2015)

METHODOLOGY
The study adopted ex-post facto research designs to evaluate the effect of community development cost on financial performance of consumer goods firms in Nigeria. The design is considered appropriate for the study since it is an after the fact design that explains the relationship between the variables after their occurrence. The population of the study consists of all the 21 consumer goods firms listed on the Nigerian Exchange Group from 2013 to 2022, while the sample size is 16 consumer goods firms. Panel regression technique was used to establish the relationship between community development cost and financial performance. The research model adapted the approach of Oshiole *et al* (2020) with little modification in line with the research hypotheses in order to empirically determine the effect of community development cost on the financial performance.

$$ROCE_{it}=\beta0 + \beta1WMC_{it} + \beta2ERC_{it} + \beta3FSZ_{it} + \mu_{it} \text{ ....(i)}$$

Where:

$ROCE_{it}$ = Return on Capital Employed
WMC_{it} =Waste Management Cost
ERC_{it} = Environmental Remediation Cost

FSZit =Firm Size
μit, t = Component of unobserved error term of firm *i* in period *t*
β0 = Constant term
β1, β2, and β3 = are slope to be estimated of firm *i* in period *t*.
i = firm identifier (16 firms)
t = time variable (2013, 2014, 2015.....2022 – (Ten years

The *a priori* expectation is that community development cost has negative relationship with return on capital employed. This means that high community development cost will lead to decease in return on capital employed.

Variable Measurement

S/N	Varables Varable of Interest	Type	Measurement	Source
1	Returns on Capital Employed (ROCE)	Dependent	Measured by dividing profit before interest and tax over capital employed	Oti and Mbu-Ogar (2018)
2	Waste Management Cost (WMC)	Independent	Total amount spent on removing waste from the environment	Oshiole *et al* (2020)
3	Environmental Remediation Cost (ERC)	Independent	Total expenses to clean up or to remove any hazardous materials from the environment.	Oshiole *et al* (2020)
4	Firm Size (FSZ)	Control	Natural Logarithm of Total Assets	Amahalu, *et al* (2018)

Source: Author's compilation (2023)

RESULT AND DISCUSSION

Descriptive Statistics

Descriptive statistics gives a presentation of the mean, maximum and minimum values of variables applied together with their standard deviations obtainable.

Table 4.1: Descriptive Statistics Result

	ROCE	WMC	ERC	FSZ
Mean	1.919625	1.709937	0.203875	7.349063
Median	2.020000	1.760000	0.200000	7.620000
Maximum	3.390000	1.990000	1.200000	8.680000
Minimum	0.080000	1.150000	0.000000	5.250000
Std. Dev.	0.789351	0.204107	0.156040	0.915697
Skewness	-0.662762	-0.628887	4.152894	-0.933948
Kurtosis	2.693390	2.684505	24.95390	2.842648
Jarque-Bera	12.34017	11.21022	3673.065	23.42532
Probability	0.002091	0.003679	0.000000	0.000008
Sum	307.1400	273.5900	32.62000	1175.850
Sum Sq. Dev.	99.06898	6.623899	3.871397	133.3218
Observations	160	160	160	160

Source: E-View 12 Output (2024)

Table 4.1 presents the descriptive effect of community development cost on the financial performance of listed consumer goods firms in Nigeria during the period of 2013 to 2022. The table shows that return on capital employed (ROCE) as measure of financial

performance has a mean of 1.91962, with a standard deviation of 0.78935 as well as a minimum value of 0.08000 and maximum value of 3.39000 respectively. Given that the range between the minimum and maximum is quite wide, it implies unstable return on capital employed as the standard deviation indicated that there is no much slightly wide dispersion of the data from the mean value. For the waste management cost and environmental remediation cost as measure of community development shows a mean of value of 1.70993 and 0.20387 with standard deviation of 0.20410 and 0.15604 with a minimum and maximum value of 1.1500, 0.0000, 1.9900 and 1.2000 respectively. This implies that waste management cost and environmental remediation cost witnessed a marginal increase during the study period, as the standard deviation is so large compared to the mean, together with the high range between the minimum and maximum values. The table also show the probability value of 0.00000 for Environmental Remediation Cost which implies that no cost was expended by the consumer goods firms in some years. Similarly firm size as control variable has mean of 7.3490 with the minimum and maximum value of 5.25000 and 8.6800 respectively.

Correlation Analysis

Correlation analysis measures relationship values between dependent and independent variables and the correlation among the independent variables themselves. The expectation from the relationship is to assess whether there is presence of possible muticollinearity.

Table 4.2: Correlation Matrix

Covariance Analysis: Ordinary
Date: 01/31/24 Time: 16:42
Sample: 1 160
Included observations: 160

Correlation Probability	ROCE	WMC	ERC	FSZ
ROCE	1.000000			

WMC	0.084249	1.000000		
	0.2895	-----		
ERC	0.068425	-0.021576	1.000000	
	0.3899	0.7865	——	
FSZ	-0.154000	-0.095989	0.114843	1.000000
	0.0519	0.2273	0.1482	-----

Source: E-View 12 Output (2024)

Table 4.2 shows the correlation between the dependent variable, ROCE and the independent variables of WMC and ERC and also the independent variables themselves on the other hand. According to Gujarati (2004), a correlation coefficient between two independent variables of 0.80 is considered excessive, and thus certain measures are required to correct that anomaly in the data. From the table above, it can be seen that all the correlation coefficient among the independent variables are below 0.80. This point to the absence of possible multicollinearity among the independent variables and the

correlation between the variables show that there is a mix of both positive and negative correlation among the dependent and independent variables. There exists positive significant of 6.8% correlation between ROCE and ERC respectively indicating that the higher ROCE the higher the ERC.

In correlation analysis, the study estimates a sample correlation coefficient, more specifically the Pearson Product Moment correlation coefficient. The sign of the correlation coefficient indicates the direction of the association. The analysis continues in this section in determining the degree of linear association between the community development cost variables in pairs employing E-views 12 Statistical package. The result presented above confirms that waste management cost and environmental remediation cost have positive correlation of 0.08424 and 0.068425 while firm size -0.15400 has a weak negative correlation with return on capital employed.

Multicollinearity Test (VIF)

The Multicollinearity test was carried out to check if there is strong correlation among the independent variables that may produce misleading result. The low magnitude of the correlations among the independent variables is an indication that multicollinearity may not be a problem for the sampled dataset. The result of collinearity diagnostics test is presented in table 4.3 below:

*Decision rule: Centred VIF of less than 10 is an indication of absence of multi-collinearity, while the centred VIF of more than 10 is an indication of presence of multi-collinearity.

Table 4.3: Multicollinearity Test (VIF)

Variance Inflation Factors
Date: 01/31/24 Time: 16:44
Sample: 1 160
Included observations: 160

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.577808	151.0490	NA
WMC	0.093270	72.30067	1.009414
ERC	0.160226	2.754468	1.013481
FSZ	0.004694	67.29229	1.022429

Source: E-View 12 Output (2024)

As stated above, the decision rule for the multicollinearity test using the variance inflation factor is that Centred VIF of less than 10 shows the absence of multi-collinearity, while the centred VIF of more than 10 is an indication of presence of multi-collinearity. Table 4.3 above clearly shows that there is absence of multicollinearity among the independent variables, given that all the independent variable (WMC, ERC and FSZ) have a center VIF that is less than 10.

Heteroskedasticity Test

In order to validate the robustness of the estimates, the Heteroskedasticity test was conducted as a diagnostic check. Heteroskedasticity happens when the standard errors of

a variable, monitored over a specific amount of time, are non-constant.

*Decision rule: At 5% level of Significance.

Table 4.4: Heteroskedasticity Test

Panel Cross-section Heteroskedasticity LR Test
Null hypothesis: Residuals are homoscedastic
Equation: UNTITLED
Specification: ROCE C WMC ERC FSZ

	Value	Df	Probability
Likelihood ratio	71.98531	16	0.0000

LR test summary:

	Value	Df
Restricted LogL	-185.7293	156
Unrestricted LogL	-149.7366	156

Source: E-View 12 Output (2024)

Table 4.4 shows the results of the panel cross-section Heteroskedasticity regression test. The decision rule for the panel cross-section Heteroskedasticity test is stated thus: The null hypothesis of the test states that there is no Heteroskedasticity, while the alternate hypothesis states that there is Heteroskedasticity. The null hypothesis is to be rejected if the P value is less than 5% level of significance. From the result in table 4.4 above with a ratio value of 71.98531 and a corresponding probability value of 0.0000 which is less than 5%, the study therefore posits that, there is reason to accept the null hypothesis, while the alternative hypothesis that states there is conditional Heteroscedasticity problem is not accepted. Consequently, based on the diagnostic probability 0.0000 the null hypothesis is accepted, thus there is conditional heteroskedasticity, indicating that residuals are not homoskedastic and as such the samples does not give a true reflection of the population. This is corrected by logging dependent variable as independent variable to correct the present of heteroscedasticity

Hausman Test

The Hausman test is a test for model specification in panel data analysis and this test is employed to choose between fixed effects model and the random effects model. Due to the panel nature of the data set utilized in this study, both fixed effect and random effect regressions were run. Hausman specification test was then conducted to choose the preferred model between the fixed effect and the random effect regression models. Thus, the decision rule for the Hausman specification test is stated thus; at 5% Level of significance:

H_0: Random effect is more appropriate.
H_1: Fixed effect is more appropriate.

Table 4.5: Hausman 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	7.187005	3	0.0662

Source: E-View 12 Output (2024)

Decision Rule
If the p-value is less than 0.05, the decision rule is to reject the null hypothesis which states that random effect is most appropriate for the panel regression meaning that the preferred model is fixed effects. Similarly, if the p-value is greater than 0.05, the decision rule is to accept the null hypothesis which states that random effect is most appropriate for the panel regression analysis (meaning that the random effect model is to be rejected.

The Result of Hausman test shows that chi-square statistics value is 7.187005 while the probability values of it is 0.0662. This implies that the Hausman test above does not provide sufficient evidence to reject the null hypothesis at 5% level of significance as can be seen that the probability value 0.0662 of the test is greater that the critical value of 5%. The fixed effect model is the most appropriate models for the study.

Langranger Multiplier Test
The langranger multiplier test is a test for model specification in panel data analysis and this test is employed to choose between pooled effect model and the random effects model. At a 5% level of significant, the decision rule is

Decision Rule
If the p- value is less than 0.05, the decision rule is to reject the null hypothesis which states that pooled effect is most appropriate for the panel regression analysis (meaning that the preferred model is random effects). Similarly, if the p-value is greater than 0.05, the decision rule is to accept the null hypothesis which states that pooled effect is most appropriate for the panel Regression (meaning that the random effect model is to be rejected).

H_0: Pooled Effect is more appropriate
H_1: Random Effect is more appropriate

Table 4.6: Breusch-Pagan Langranger Multiplier Test

Residual Cross-Section Dependence Test
Null hypothesis: No cross-section dependence (correlation) in residuals
Equation: Untitled
Periods included: 10
Cross-sections included: 16
Total panel observations: 160
Note: non-zero cross-section means detected in data
Cross-section means were removed during computation of correlations

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	158.6720	120	0.0104

Source: E-View 12 Output (2023)

Based on the probability value of the Breusch-Pagan Langranger Multiplier Test at 0.0104 above, the null hypothesis is rejected, thus random effect is more appropriate when compared to pooled effect.

H_{o1}: Waste management cost has no significant effect on return on capital employed (ROCE) of listed consumer goods firms in Nigeria.

H_{o2}: Environmental remediation cost has no significant effect on return on capital employed (ROCE) of listed consumer goods firms in Nigeria.

Table 4.7: Panel Regression Result (Random Effect)
Dependent Variable: ROCE
Method: Panel EGLS (Cross-section random effects)
Date: 01/31/24 Time: 17:09
Sample: 1 160
Periods included: 10
Cross-sections included: 16
Total panel (balanced) observations: 160
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.128083	0.386700	5.503189	0.0000
WMC	-0.143093	0.138974	-1.029638	0.3048
ERC	-0.107462	0.170885	-0.628856	0.5304
FSZ	-0.050072	0.037636	-1.330425	0.1853
LOGROCE	0.896022	0.042707	20.98060	0.0000
	Effects Specification			
			S.D.	Rho
Cross-section random			0.130919	0.1515
Idiosyncratic random			0.309811	0.8485
	Weighted Statistics			
R-squared	0.743091	Mean dependent var		1.150135
Adjusted R-squared	0.736461	S.D. dependent var		0.612464

S.E. of regression	0.314415	Sum squared resid	15.32278
F-statistic	112.0816	Durbin-Watson stat	1.823570
Prob(F-statistic)	0.453000		

Source: E-View 12 Output (2024)

From table 4.7 above, the coefficient of multiple determinations (R^2) is 0.7430 and in line with the panel nature of the data used in this study, the regression model shows that the range of values between adjusted R^2 and R^2 falls between 74%, and 73% respectively. This indicates that about 74% of the total variations in return on capital employed (ROCE) is explained by the variations in the independent variables (WMC and ERC), while the remaining 26% of the variation in the model is captured by the error term, which further indicates that the line of best fit is highly fitted. The panel regression result for the sampled consumer goods firms as presented in table 4.7 above showed that there is a negative relationship between waste management cost, environmental remediation cost and return on capital employed with a corresponding P-Value of 0.3048 and 0.5304. However, respective probability values, the parameter estimate for waste management cost, environmental remediation cost is statistically insignificant, given that the individual probability is 0.3048 and 0.5304 which is greater than 5%. However, when taken collectively, the regressors (WMC and ERC) against the regressed return on capital employed (ROCE), the value of F-statistic is 112.081 and the value of the probability of F-statistic is 0.45300. This result implies that the overall regression is both positive and statistically insignificant at 5%.

Discussion of Findings

This study examined effect of community development cost on the financial performance of listed consumer goods firms in Nigeria. Therefore, the findings of this study are on the basis of formulated hypotheses, models and analysis carried out.

Firstly, assessment of waste management cost on return on capital employed of listed consumer goods firms in Nigeria revealed a negative and insignificant effect on return on capital employed of listed consumer goods firm in Nigeria. The findings of this study agree with the findings of Akinleye and Olaoye (2021), who documented evidence of a negative between community development and financial performance of food and beverages industry. But the finding of Oyedokun and Ayon (2022) do not agree with the study because a positive result was discovered by their study.

Secondly, examining the effect of environmental remediation cost on return on capital employed has a negative effect on listed consumer goods firms in Nigeria. The result agrees with the findings of Enya (2021), who found a negative association between environmental cost and performance of the manufacturing firms. Also the finding of Okore (2021) agrees with the study because a negative result was discovered by his study. The implication is that both waste management cost and environmental remediation cost have negative impact on return on capital employed of listed consumer goods firms in Nigeria because of its negative effect on the consumer goods sectors.

CONCLUSION AND RECOMMENDATIONS

The study examined the effect of community development cost on the financial performance of listed consumer goods firms in Nigeria from 2013-2022 in Nigeria. The

overall result has insignificant effect on the return on capital employed of listed consumer goods firms in Nigeria Therefore, the study concludes that waste management cost and environmental remediation cost have a negative and insignificant effect on return on capital employed of listed consumer goods firms in Nigeria. Based on the findings of this study and the conclusion made, the study recommends as follows:

i. The management of listed consumer goods firms in Nigeria should have a positive disposition towards community development cost and also disclose more of these information in their annual report. This will help the community and other stakeholders to understand what the company is doing in society.

ii. The company should also try to reduce or maintain waste management cost and environmental remediation cost because of negative multiplier effect on return on capital employed of consumer goods firm in Nigeria.

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