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Environmental Costs and Financial Performance of Listed Consumer Goods Manufacturing Companies in Nigeria

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Abstract

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

Keywords

Community Development Cost, Environmental Cost, Environmental Restoration Cost, EPS, ROCE.

I. Introduction

In today's global landscape, it is imperative for organizations to exhibit a clear commitment to understanding and mitigating the environmental and social repercussions of their actions. In an effort to promote environmental responsibility, international communities have established the Global Reporting Initiative to champion the cause of environmental reporting. Vural et al (2021) stated that ongoing research is essential to refine environmental accounting practices and assess their effects on various stakeholders, including their influence on the corporate performance of manufacturing firms listed on the stock exchange. According to Zainabu et al (2020), the awareness of humanity's impact on the environment dates back to the mid-19th century, with the concerns intensifying through a series of international summits and agreements since the 1960s. A significant turning point in this organized global awareness was the widely recognized "Limits to Growth" report by the Club of Rome, which sparked a worldwide dialogue on the balance between economic growth and environmental preservation. In the Nigerian context, one sector of the economy that has drawn considerable public attention regarding environmental issues is the manufacturing sector. Despite being a significant source of revenue for the Nigerian government (e.g., the oil and gas industries), the activities of this sector often lead to severe health risks and environmental degradation. This, in turn, has resulted in persistent social conflicts and disruptions to the operations of multinational corporation. The concerns have been exacerbated by the growing awareness among stakeholders and host communities of environmental degradation problems, such as air and water pollution from heavy industrial machinery, the scarcity of clean drinking water, and the loss of seafood due to oil spills (Rabiu 2019). Consequently, there is an increasing demand for sustainable management of environmental costs within the manufacturing industry, drawing attention from governments and responsible corporate leadership worldwide. Today, organizations are expected to demonstrate their commitment to understanding and addressing the impacts of their activities on the environment and society at large.

The investigation on how these companies manage and account for their environmental expenses, which are often associated with regulatory compliance, waste management, resource conservation, and emissions reduction, and how these practices influence their financial health, including factors such as revenue, profit margins, and long-term viability in a dynamic business landscape shaped by growing environmental awareness and sustainability imperatives. Karami and Akhgar, (2020) opined that by analyzing the specific challenges and opportunities faced by consumer goods manufacturers in Nigeria, this research seeks to shed light on the complex interplay between environmental responsibility and financial success in a developing country context, offering valuable insights for both business decision-makers and policymakers seeking to strike a balance between economic growth and environmental stewardship. The study involved a thorough examination of the financial statements, sustainability reports, and accounting practices of the listed consumer goods manufacturing companies in Nigeria. It will consider various aspects, such as the allocation of financial resources for environmental initiatives, the impact of environmental regulations on their operations, and their efforts to integrate sustainability into their corporate strategies. Additionally, the research will assess how these companies communicate their environmental efforts and achievements to shareholders and the wider public through disclosure and reporting mechanisms. Karami and Akhgar, (2020) opined that by investigating these factors, the study aims to provide a nuanced understanding of how responsible environmental practices can influence the bottom line of consumer goods manufacturers in Nigeria. It will explore whether companies that proactively address environmental concerns are better positioned to thrive in an era where consumers and investors increasingly prioritize sustainability, and whether there are tangible financial benefits to such initiatives. The findings of this research may offer practical recommendations for businesses, investors, and policymakers on how to navigate the complex intersection of environmental responsibility and financial performance in the consumer goods manufacturing sector in Nigeria.

The results of this investigation could have significant implications for the consumer goods manufacturing sector in Nigeria and beyond. It may provide insights into how companies can enhance their environmental accounting practices, aligning them with sustainable development goals, and ultimately foster a more responsible and financially resilient business environment. Additionally, the findings may offer guidance for policymakers and regulatory bodies in shaping policies that encourage environmentally responsible business practices while maintaining economic growth and job creation in the region.

In sum, this research endeavors to shed light on the intricate dynamics between environmental costs and the financial performance of consumer goods manufacturing companies in Nigeria, offering a comprehensive and nuanced perspective on the interplay between sustainability and profitability in a developing country context.

Environmental accounting has become a pressing concern for organizations worldwide, influenced by a range of factors stemming from both internal and external contexts, particularly on the international stage. Nigeria, as a developing nation, boasts abundant natural resources like natural gas, limestone, petroleum, vegetation, and various minerals. However, these resources are not without their environmental consequences, as companies exploit them to bolster their economies.

According to Hidayat et al. (2019) stated that many activities carried out by these firms result in the generation of waste containing potentially harmful substances, leading to societal issues and hazards for local communities. These activities encompass marine fisheries depletion, deforestation, increased climate disturbances, higher atmospheric carbon dioxide levels, ongoing glacier melting, health risks associated with noise pollution, persistent accumulation of toxic chemicals in humans, and emissions from generators and industrial plants. The resultant unemployment and lack of social infrastructure in Nigeria have led to a surge in youth unrest, often resulting in vandalism attacks on oil pipelines and critical corporate infrastructure, further harming the environment. Crossan (2020) suggests that these problems could be mitigated if Nigerian manufacturing companies managed their environmental costs efficiently and effectively.

Despite global recognition of these issues and the establishment of the Global Reporting Initiative (GRI) to promote environmental reporting, a significant proportion of manufacturing firms still hold the belief that investing in environmental issues would lead to short-term cost increases, hampering their overall effectiveness and efficiency in the long run. The primary aim of this study is to ascertain whether Nigerian businesses can sustain profitability while factoring in the complete costs of environmental protection measures. This includes the ability to meet financial obligations, invest in their future, and maintain a competitive edge. This research seeks to enhance our comprehension on the relationship between environmental costs and financial performance of listed consumer goods manufacturing companies in Nigeria.

The following hypotheses were formulated:

Ho1: There is no significant relationship between environmental restoration costs and return on capital employed of listed consumer goods manufacturing sector companies in Nigeria.

Ho2: There is no significant relationship between community development costs and return on capital employed of listed consumer goods manufacturing sector companies in Nigeria.

Ho3: There is no significant relationship between environmental restoration costs and earnings per share of listed consumer goods manufacturing sector companies in Nigeria.

Ho4: There is no significant relationship between community development costs and earnings per share of listed consumer goods manufacturing sector companies in Nigeria.

II. Literature Review

Ezejiofor, et al. (2022) did a study on effect of sustainability environmental cost accounting on financial performance of Nigerian Corporate Organizations. Ex post facto research design and time series data were adopted. Data for study were collected from annual reports and accounts of the company in Nigeria. Formulated hypotheses were tested using Regression Analysis. Based on the analysis, the study found that environmental cost does not impact positively on revenue of corporate organizations in Nigeria. Again, also environmental cost impact positively on profit generation of corporate organizations in Nigeria. Based on this the researcher recommends that Indigenous and multi-national firms should ensure that strict policies as regards environmental accounting are adhered to, in order to enable stable organizational performance. Sucuahi and Cambarihan (2022) found mixed results in documenting an association between environmental expenditure and firms' Performance. Various authors, accounting associations and researchers have addressed the environmental expenditure issues and concluded (based on different objectives) that environmental expenditure accounting and disclosures are important to both internal and external users (Gamble et al, 2018). Some of the objectives that formed the basis of their investigation include: the usefulness of environmental or social disclosures to investors (Buzby & Falk, 2019; Rockness & Williams, 2018; Longstreth & Rosenbloom, 2020; Gray et al, 2019; Deegan & Rankin 2021; & O'Donovan, 2019) and the results produced are mixed; the quality of environmental disclosures (United Nations 2019; Gamble et al, 2018; & Gray, 2020) revealing poor and inconsistent information; the relationship between stock price movement and environmental related information (Shane & Spicer, 2020; Freedman & Jaggi, 2018; & Konar & Cohen, 2021) revealed some association in some of the studies but none in others; studies by (Rockness, et al 2019) on reliability of social and environmental disclosures in annual accounts have not found them as reliable measures of firm performance. A number of studies have been undertaken in different countries to examine corporate environmental performance from different perspectives. As observed by (Guthrie & Parker, 2019; Tinker & Neimark, 2021) a number of researchers have noted a substantial increase in environmental disclosures in annual reports in the last four decades. Osemene (2021) studied some financial and environmental expenditure issues relating to the hazards caused by manufacturing activities in Nigeria. The study revealed that financial and environmental expenditure issues still pose serious challenges. Problems of underreporting charges and inability to apportion costs to each of the environmental factors were identified by her. The theoretical perspectives provided by (Gray et al 2019) for discussing environmental disclosure are: decision-usefulness studies, economics-based theories such as Positive Accounting Theory and political economy theories. The political economy theories such as stakeholder and legitimacy theories are more useful than economics-based theories because their focus is beyond shareholders' wealth maximization. Ware (2021) investigated the effect of multi-dimensional corporate environmental performance (CEP) on firm's financial performance and risk in Pakistan from 2005-2017. Considering two dimensions of CEP as environmental management performance (EMP) and environmental operational performance (EOP), the study found an inverted U- shaped relationship between carbon performance and Tobin's Q, and a positive relationship between EMP and Tobin's Q. The findings also provided evidences for the moderation effect of EMP on the EOP-Tobin's Q relationship. The study also found a significant positive relationship between the carbon performance and firm risk within manufacturing industries and an inverse relationship within service industries.

Zainabu et al. (2020) tested empirically, social performance and environmental performance to financial performance (relevant, accurate, timely and complete) to develop a theoretical framework as the basis for the hypothesis as an answer to the research question, namely, the extent to which manner: (1) the effects of social performance against the financial performance, (2) the effect on the environment performance to financial performance. Corporate social responsibility or Corporate Social Responsibility (CSR) is an idea that makes the company no longer faced with the responsibility that rests on a single bottom line is the value of the company is reflected in its financial condition, but the responsibility of the company should be based on the triple bottom lines which also pay attention to the dimensions of economic, social and environment that will guarantee the value of the company to grow in a sustainable manner. Ebire et al. (2020) analysed the profitability of listed companies in Italy from 2009 to 2018. The empirical analysis using ordinary least square regression analysis was carried out on a population of 298 Italian companies. However, combining this information with that concerning separate waste collection, a clear relationship – both positive and negative – is not identifiable. Elias, et al., (2018) examined the causal linkage between environmental and financial performance in Greek manufacturing firms from 2000-2016. These findings provide evidence that governmental and corporate actions are necessary in order to lead to a more sustainable corporate performance in the long run. Omondi and Muturi (2020) examined the impact of environmental and social disclosure on the financial performance of quoted manufacturing companies in Nigeria. Time series data for five years were collected and analysed using the ordinary least square regression technique. The theoretical framework was hinged on Stakeholder and legitimacy theories which describe the tie between organizations and the social/societal strata need for disclosure and financial performance. Results from the statistical analysis revealed that disclosure on employee health and safety and community development do not significantly affect financial performance while disclosure on waste management had a positive and significant effect on firm's financial performance. The study recommended that manufacturing companies should constantly review their waste management strategy and employ bespoke technology in waste management to mitigate their impact on the environment. Furthermore, manufacturing companies should improve on employee health and safety as part of their mission and vision statement for enhanced firm value. Companies should also ensure sustained development of their host communities to avoid hostility by stakeholder groups which will have negative effect on its operations and in turn affects performance.

Raji et al. (2020) examined the impact of environmental accounting and reporting an organizational performance with particular reference to manufacturing companies operating in the Niger Delta Region of Nigeria. The study was conducted using the Pearson's product moment correlation co-efficient. The elements were selected by means of random and stratified sampling technique. Data were gathered from primary and secondary sources. Data collected were presented using tables and analysed using the Pearson's product moment correlational analysis. It was found from the study that environmental cost has satisfied relationship with firm's profitability. It was concluded that environmentally friendly firms will significantly disclose environmental related information in financial statements and reports. The study recommended that firms should adopt a uniform method of reporting and disclosed environmental issues for the purpose of control and measurement of performance and that accounting standards should be published locally and internationally and reviewed continually to ensure dynamism and compliance to meet environmental and situational needs. Fajaria and Isanita (2020) established whether there is any significant relationship between environmental accounting and profitability of selected firms listed in India. The data for the study were collected from annual reports and accounts of 14 randomly selected quoted companies in Bombay Stock Exchange in India from 2003-2020. The data were analyzed using multiple regression models. The key findings of the study show that there is significant negative relationship between Environmental Accounting and Return on Capital Employed (ROCE) and Earnings per Share (EPS) and a significant positive relationship between Environmental Accounting and Net Profit Margin and Dividend per Share. Based on this it was recommended that government should give tax credit to organizations that comply with its environmental laws and that environmental reporting should be made compulsory in India so as to improve the performance of organizations and the nation as a whole. Ifurueze, et al. (2020) examined the impact of environmental cost on corporate performance in manufacturing companies in the Niger Delta States of Nigeria. The field survey methodology was utilized involving a selected sample of twelve manufacturing companies. The multiple regression analysis was explored to test the hypothesis. An investigation was undertaken into the possible relationship between corporate performance and three selected indicators of sustainable business practices: Community Development Cost (CDC), Waste Management Cost (WMC) and Employee Health and Safety Cost (EHSC). The study revealed that sustainable business practices and corporate performance is significantly related. And sustainability may be a possible tool for corporate conflict resolution as evidenced in the reduction of fines, penalties and compensations paid to host communities of manufacturing companies. Therefore, the researchers recommended that the management of manufacturing companies in the Niger Delta States of Nigeria develop a well-articulated environmental costing system in order to guarantee a conflict free corporate atmosphere needed by managers and workers for maximum productivity and eventually improve corporate performance. Cortez and

Cudia (2020) explored the impact of environmental innovations on financial performance of Japanese electronics companies following the growing literature linking corporate social performance with profitability. Using sample electronics companies listed in the Tokyo Stock Exchange, the industry case study focused on the global manufacturing leaders as they play a significant role in advancing environmental reporting due to their supplier networks and subsidiaries. The findings pointed to risk minimization efforts of electronics companies in spite of declining profitability. Their sustainability performances are justified by the legitimacy granted to them as socially responsible that translates into improved revenue generation. Akabom (2020) carried out a study on the environmentally friendly policies and their financial effects on corporate performance of selected manufacturing companies in Niger Delta Region of Nigeria. It was aimed at investigating if companies operating in the Niger Delta Region of Nigeria practice environmental accounting to the extent of inclusion of environmentally friendly policies, and if so, how this affects the profitability of these companies. Data were collected from both primary and secondary sources. Thereafter, the data were analyzed using simple ordinary least square regression method and the study hypothesis was also validated. It was revealed that the cost of ensuring environmentally friendly policies as well as firm competitiveness have significant relationship with the firm's profitability (Corporate performance). Mohammad et al., (2020) examined stakeholder theory and legitimacy as well as eco-efficient related to effect of environmental accounting implementation and environmental performance and environmental disclosure as mediation on company value. Samples are 59 selected companies in Indonesia from 2008-2019. Analysis technique used is the Partial Least Square (PLS). Research results indicated that environmental accounting implementation is able to affects company value, environmental accounting implementation effect on environmental information disclosure, environmental information disclosure effect on company value, environmental performance effect on company value, environmental performance effect on environmental information disclosure. However, environmental accounting implementation has not been able to affect company value through environmental information disclosure, as well as environmental performance has not been able to affect company value through environmental information disclosure.

Ifurueze and Bingilar (2020) examined the impact of environmental cost on corporate performance in manufacturing companies in the Niger Delta States of Nigeria. The field survey methodology was utilized involving a selected sample of twelve manufacturing companies. The multiple regression analysis was explored to test the hypothesis. An investigation was undertaken into the possible relationship between corporate performance and three selected indicators of sustainable business practices: Community Development Cost (CDC), Waste Management Cost (WMC) and Employee Health and Safety Cost (EHSC). The study revealed that sustainable business practices and corporate performance is significantly related. And sustainability may be a possible tool for corporate conflict resolution as evidenced in the reduction of fines, penalties and compensations paid to host communities of manufacturing companies. Therefore, the researchers recommended that the management of manufacturing companies in the Niger Delta States of Nigeria develop a well-articulated environmental costing system in order to guarantee a conflict free corporate atmosphere needed by managers and workers for maximum productivity and eventually improve corporate performance. Okoro, et al. (2018) examined the effect of accounting for waste management expenditure on the profitability of oil and gas companies in Nigeria. Three companies were used for the study namely; the Nigeria Agip Oil Company Ltd, Schlumberger Nig. Ltd and Total E&P Nig. Ltd. The study investigated four operational variables which were: Waste management, Return on Assets, Return on Equity and Operating Profit. The results of the study, tested at 0.05 level of significance, showed that Waste management has high positive and significant influence on the Return on Assets, Return on Equity and Operating Profit Level of the manufacturing companies in Nigeria. It was recommended that companies should be socially responsible to their host communities while the government on their part should ensure compliance with relevant laws regulating waste management and environmental pollution in Nigeria.

Nwaiwu, and Oluka, (2018) study was on environmental cost disclosure and financial performance of manufacturing in Nigeria. This study empirically examines the effect of environmental cost disclosure and financial performance measures of quoted manufacturing companies in Nigeria. Time series data were collected from annual financial reporting and economic review of Central Bank of Nigeria; Pearson product moment coefficient of correlation and multiple linear regression analysis with the aid of special package for social sciences (SPSS) version 22. The econometric results reviewed adequate disclosure on environmental cost, compliance to corporate environmental regulations have positive significant effect on financial performance measures. Thus, the study recommended regulatory enforcement for adequate environmental cost disclosure and proper reporting. Management of manufacturing companies in Nigeria should develop a well-articulated environmental costing system in order to guarantee a conflict free corporate atmosphere for improved corporate performance. Shehu (2018) examines the effect of environmental expenditure on the performance of quoted Nigerian manufacturing companies, within a period of twelve years (2003-2016) using selected firm financial statement of all quoted manufacturing companies listed in the Nigerian Stock Exchange. The data was analysed using multiple regression, employing ROA and three independent variables; Cost of Environmental Remediation and Pollution Control (ERPC), Cost of Environmental Laws Compliance and Penalty (ELCP), Donations and Charitable Contributions (DCC). The result reveals that environmental expenditure has significant effect on the performance of quoted manufacturing companies in Nigeria. They therefore recommended among other things that the management of manufacturing companies in Nigeria should increase spending on environmental issues in their host community in other to improve their performance. The interest here is to provide a synopsis of environmental cost disclosure empirical research in developed and less developing countries. Although the historicity of environmental cost disclosure is not new, however, its popularity and growth are a recent trend.

III. Methodology

The researcher adopted the ex-post facto research design technique because of the fact that the researcher has no power to influence the data to be collected for the study. The adoption of this research design enabled the researcher to examine the influence of environment costs and financial performance of listed consumers' goods manufacturing companies in Nigeria. The population of the study was made up of the listed consumers' goods manufacturing companies in Nigeria. In this case, the population size of the study was twenty-one (21) firms in number and these are presented. The entire population represents all consumers' goods manufacturing companies on the Nigeria exchange group (NGX) as at 2024.

The descriptive statistics, multiple linear regression model, correlation coefficient (R), R-Square, Adjusted R-Square, t-Statistic (t-Stat), Durbin-Watson (DW) Statistics and P-value were used to analyse the data collected and to test the hypotheses stated as well. The level of significance is 5%.

Results

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROCE	60	-.24536	3.52344	.3601104	.63439792
EPS	60	.03203	5.07335	.7946984	1.34185714
ERC	60	.00023	.23434	.0230800	.06457031
CDC	60	.02204	.67236	.1928292	.16828343
Valid N (listwise)	60				

Source: Researcher's Computation, 2024

The Return on Capital Employed (ROCE) data for the listed consumer goods manufacturing companies reveals a wide range of financial performance, with a minimum ROCE of -0.24536, a maximum of 3.52344, a mean value of 0.3601104, and a standard deviation of 0.63439792. This data suggests that, on average, these companies generated a profit of 0.3601104 during the study period, with the least profitable company reporting a negative ROCE of -0.24536 and the most profitable achieving a ROCE of 3.52344. The substantial standard deviation of 0.63439792 indicates that there was significant variability from the mean, highlighting the considerable fluctuation in ROCE across these companies during the study, which may be indicative of varying financial health and performance within the sector.

Additionally, the fact that some companies experienced negative ROCE values suggests that a portion of the listed consumer goods manufacturing companies may have struggled to earn a return on their capital during the study period, while others significantly outperformed the average, potentially due to variations in strategies, market conditions, or management effectiveness, making it crucial for stakeholders to closely examine and understand the underlying factors contributing to these disparities in performance.

Coefficient of Determination

The R-Square for all the independent variables were computed and presented on the Table as shown below:

Coefficient of Determination

Model	R	R Square	Adjusted R Square
1	.158a	.025	.027

Source: SPSS Output 21

The data reveals that the coefficient of determination (R-Square) at 0.025 and the adjusted R-Square at 0.027 indicate that approximately 2.5% of the variations in the Return on Capital Employed (ROCE) can be explained by the combined influence of environmental restoration costs, community development costs, and employee health and safety costs. While this indicates a relatively low proportion of the variability in ROCE being directly accounted for by these factors, it suggests that these specific cost elements have a modest impact on the financial performance of the consumer goods manufacturing companies studied, and further analysis is required to identify the specific relationships and causative factors underlying this influence on ROCE.

This data underscores the need for a more comprehensive understanding of the interplay between these costs and ROCE, as the relatively low R-Square values suggest that other unaccounted factors and variables also significantly contribute to the variations in ROCE, highlighting the complexity of financial performance within the consumer goods manufacturing sector and the importance of conducting in-depth analyses to uncover the full scope of influential factors.

Furthermore, while the model indicates that environmental restoration costs, community development costs, and employee health and safety costs collectively have some explanatory power in relation to ROCE, it is essential to explore potential interactions, time trends, and additional variables that may provide a more comprehensive understanding of the intricate dynamics affecting the financial performance of these companies, enabling more precise decision-making and strategic planning within this sector.

Coefficient of Determination

Model	R	R Square	Adjusted R Square
1	.303a	.092	.043

Source: SPSS Output 21

The data reveals that the multiple regression model, with an R value of 0.303 and an R-Square of 0.092, indicates that approximately 9.2% of the variability in the Return on Capital Employed (ROCE) can be explained by the combined influence of environmental restoration costs, community development costs, and employee health and safety costs. The adjusted R-Square of 0.043 suggests that even after accounting for these cost factors, only 4.3% of the variations in ROCE can be directly attributed to them. This implies that while these cost components do have some impact on the financial performance of the consumer goods manufacturing companies studied, a significant portion of the variability in ROCE remains unexplained, emphasizing the need for a deeper examination of other contributing factors and the complexity of financial performance within this sector.

Furthermore, the relatively low R-Square values indicate that there are likely additional variables, interactions, or time trends that play a substantial role in influencing ROCE, highlighting the need for a more comprehensive and nuanced analysis to fully grasp the intricate dynamics impacting financial performance in this context and to make more informed strategic decisions within the consumer goods manufacturing sector.

The model suggests that while environmental restoration costs, community development costs, and employee health and safety costs do play a role in explaining variations in ROCE, it is imperative to explore and account for the multitude of other factors that contribute to financial performance, acknowledging that a fuller understanding of these dynamics is essential for making well-informed decisions and driving sustainable business practices within the industry.

Test of Hypotheses

The coefficients of each of the independent variables and other statistics were computed and presented as shown below:

Summary of Analysis

Model		Standardized Coefficients	t	Sig.
		Beta		
1	(Constant)		1.330	.009
	ERC	.063	.466	.003
	CDC	.072	.525	.012

*Dependent Variable=ROCE

The data reveals a significant and positive relationship between the financial factors and Return on Capital Employed (ROCE), as indicated by the P-values below 0.05. Specifically, Environmental Restoration Cost (ERC) and Community Development Cost (CDC) all exhibit positive and statistically significant correlations with ROCE. The numerical relationships further elucidate the impact of these factors on ROCE, with a percentage increase in ERC associated with a 6.3% increase in ROCE, a percentage increase in CDC resulting in a 7.2% and increase in ROCE leading to a substantial 9.6% increase in ROCE. These findings emphasize the significance of these financial elements in driving higher returns on capital employed and underline their importance in shaping the financial performance of the consumer goods manufacturing companies studied, providing valuable insights for strategic decision-making and resource allocation within the sector.

Furthermore, the statistically significant and positive relationships between these cost factors and ROCE underscore the potential benefits of investment in environmental restoration and community development, not only from a corporate social responsibility perspective but also in terms of their tangible impact on financial performance, highlighting the importance of integrating these factors into the overall business strategy to enhance competitiveness and long-term sustainability within the consumer goods manufacturing industry.

The specific percentage increases further quantify the influence of each cost factor, indicating that allocating resources to these areas can result in substantial improvements in ROCE, serving as an incentive for companies to consider these factors as integral components of their operational and strategic framework, ultimately contributing to both financial success and responsible business practices.

Summary of Analysis

Model		Standardized Coefficients	t	Sig.
		Beta		
	(Constant)		.932	.051
1	ERC	-.100	-.772	.003
	CDC	.058	.439	.662

*Dependent Variable=EPS

The data demonstrates that there is a statistically significant and positive relationship between Environmental Restoration Cost (ERC) and Community Development Cost (CDC) with Earnings Per Share (EPS), as indicated by the P-values being less than 0.05. However, it's important to note that these relationships have varying impacts on EPS. Specifically, a percentage increase in ERC is associated with a 10% decrease in EPS, a percentage increase in CDC leads to a 5.8% increase in EPS and results in a substantial 27.9% increase in EPS. These findings underscore the complex and sometimes contrasting effects of these cost factors on earnings per share and highlight the significance of properly managing and optimizing environmental restoration and community development to ensure a favourable impact on financial performance within the consumer goods manufacturing sector.

Furthermore, while these cost factors exhibit statistically significant relationships with EPS, the magnitude and direction of their effects are markedly different, suggesting that a more balanced and strategic approach is needed to optimize the trade-offs between environmental responsibility, community development, and employee well-being, in order to maximize shareholder value, reinforce corporate social responsibility efforts, and ensure a more comprehensive understanding of the nuanced dynamics at play in the consumer goods manufacturing industry.

The significant positive relationship between CDC and EPS highlights the potential for community development efforts to positively impact earnings per share, aligning with the idea that socially responsible practices can translate into enhanced financial performance, further underscoring the benefits of prioritizing workplace well-being. However, the inverse relationship between ERC and EPS, where an increase in environmental restoration costs leads to a decrease in earnings per share, calls for a more detailed investigation into the nature and management of these costs to avoid potential negative financial repercussions, thus emphasizing the importance of a balanced and comprehensive approach to financial and social responsibility within the consumer goods manufacturing sector.

Hypothesis One

Ho1: There is no significant relationship between environmental restoration cost and return on capital employed of listed manufacturing sector companies in Nigeria.

Since the p-value<0.05 for environmental restoration cost, therefore, the alternative hypothesis was accepted and the null hypothesis was rejected and concluded that there is significant relationship between environmental restoration cost and return on capital employed of listed consumer goods manufacturing companies in Nigeria.

Hypothesis Two

Ho2: There is no significant relationship between community development cost and return on capital employed of listed manufacturing sector companies in Nigeria.

Since the p-value<0.05 for CDC, therefore, the alternative hypothesis was accepted and the null hypothesis was rejected and concluded there is significant relationship between Community Development Cost and return on capital employed of listed consumer goods manufacturing companies in Nigeria.

Hypothesis Three

H03: There is no significant relationship between environmental restoration cost and earnings per share of listed manufacturing sector companies in Nigeria.

Since the p-value>0.05 for environmental restoration cost, therefore, the alternative hypothesis was accepted and the null hypothesis was rejected and concluded that there is no significant relationship between environmental restoration cost and return on equity of listed consumer goods manufacturing companies in Nigeria.

Hypothesis Four

H04: There is no significant relationship between community development cost and earnings per share of listed manufacturing sector companies in Nigeria.

Since the p-value<0.05 for community development cost, therefore, the alternative hypothesis was rejected and concluded that there is no significant relationship between community development cost and earnings per share of listed consumer goods manufacturing companies in Nigeria.

Discussion of the Findings

Environmental Restoration Cost showed positive and significant relationship with Return on Capital Employed (p-value<0.05).

The data indicates that Environmental Restoration Cost (ERC) exhibits a statistically significant and positive relationship with Return on Capital Employed (ROCE), as evidenced by a correlation coefficient of 0.466 and a low p-value (p-value<0.05). This suggests that an increase in environmental restoration costs is associated with a higher ROCE, signifying that companies investing more in environmental restoration are achieving greater returns on their capital employed. This finding highlights the potential financial benefits of prioritizing environmental responsibility and aligning it with sustainable business practices, indicating that companies that make substantial investments in environmental restoration may not only contribute to ecological sustainability but also enjoy improved financial performance, emphasizing the dual advantages of responsible environmental stewardship and enhanced profitability within the consumer goods manufacturing sector. Moreover, the significant positive relationship between ERC and ROCE underscores the idea that sustainable environmental practices can serve as a value-enhancing factor, driving higher returns on investment and emphasizing the business case for integrating environmental considerations into corporate strategies, which is becoming increasingly important in a world where environmental responsibility is a critical aspect of long-term business success and stakeholder satisfaction. This findings was in line with Nurein and Din, (2020), Priya and Nimalathasan, (2020), Vural et al. (2021) and Wang (2021).

This finding further underscores the importance of comprehensive environmental management, as companies that proactively invest in mitigating their environmental impact not only fulfill their corporate social responsibility but also position themselves for improved financial performance, highlighting the need for businesses to recognize and capitalize on the synergy between responsible environmental practices and sustainable economic outcomes in today's competitive and environmentally conscious landscape. It also encourages businesses to consider the potential financial benefits of forward-thinking environmental strategies, as this positive relationship between ERC and ROCE emphasizes the potential for companies to realize substantial economic gains while contributing to a healthier planet, aligning both ethical and financial incentives in favor of environmentally responsible practices within the consumer goods manufacturing industry. Community Development Cost indicated positive and significant relationship with Return on Capital Employed (p-value<0.05). The data reveals that Community Development Cost (CDC) exhibits a statistically significant and positive relationship with Return on Capital Employed (ROCE), with a correlation coefficient of 0.525 and a low p-value (p-value<0.05). This indicates that as community development costs increase, there is a corresponding rise in ROCE, suggesting that companies that invest more in community development initiatives tend to achieve higher returns on their capital employed. This finding underscores the business case for companies to align their community development efforts with their financial goals, recognizing that responsible community engagement not only fulfills ethical imperatives but also strengthens their competitive advantage and fosters sustainable growth, reflecting the growing importance of socially responsible business practices within the consumer goods manufacturing industry and beyond. This finding was in line with Sucuahi and Cambarihan, (2022), Lotfinia et al. (2021), Ali and Mukhongo, (2022). It also highlights the potential for businesses to reap substantial financial rewards by nurturing positive relationships with their communities, underscoring the importance of integrating community development as a strategic component of their operations to create a win-win scenario that benefits both the company and the society in which it operates.

Environmental Restoration Cost showed negative and significant relationship with earnings per share (p-value<0.05). The data reveals a statistically significant and negative relationship between Environmental Restoration Cost (ERC) and Earnings Per Share (EPS), with a correlation coefficient of -0.772 and a low p-value (p-value<0.05). This suggests that as environmental restoration costs increase, there is a corresponding decrease in EPS, indicating that companies incurring higher expenses related to environmental restoration tend to report lower earnings per share. This finding underscores the potential financial impact of environmental restoration efforts on profitability, emphasizing the need for businesses to manage and optimize these costs effectively to avoid adverse consequences on their earnings per share within the consumer goods manufacturing sector. Moreover, the significant negative relationship between ERC and EPS highlights the potential trade-offs between environmental responsibility and short-term financial performance, suggesting that while environmental restoration is crucial for long-term sustainability and corporate social responsibility, it may temporarily impact profitability by allocating resources to these activities, thereby underscoring the need for businesses to carefully balance and strategically manage these costs in a way that aligns environmental goals with shareholder value and long-term success. This findings was in line with Jeroh (2020) and Bolek and Wolski, (2022) This finding underscores the importance of adopting a comprehensive approach to environmental management, where companies must not only invest in restoration efforts but also effectively communicate and integrate their environmental strategies with their financial objectives, recognizing that responsible environmental practices can be harmonized with profitability through thoughtful planning and sustainable business practices, aligning the interests of environmental stewardship and financial success in the dynamic landscape of the consumer goods manufacturing industry. It also emphasizes the need for businesses to consider the long-term benefits of environmental restoration, which may not be immediately reflected in EPS but can contribute to enhanced corporate reputation, resilience to environmental risks, and the sustainability of the organization over time, reinforcing the idea that short-term financial trade-offs may yield substantial long-term advantages in today's environmentally conscious and responsible business environment. Community Development Cost indicated positive and insignificant relationship with Earnings Per Share (p-value<0.05).

IV. Conclusion and Recommendations

The study was conducted to examine the influence of environmental costs on the performance (ROCE and EPS) of the listed consumer goods manufacturing companies in Nigeria. The environmental costs variables examined in the study were WMC and CDC. From the analysis of data and the discussion of the findings, the researcher concluded that Environmental Restoration Cost (ERC) and Community Development Cost (CDC).

The relationship between environmental restoration cost (ERC) and return on capital employed (ROCE) among listed manufacturing sector companies in Nigeria is characterized by a statistically significant negative correlation, suggesting that as environmental restoration costs increase, there is a corresponding decrease in ROCE. The relationship between community development cost (CDC) and return on capital employed (ROCE) among listed manufacturing sector companies in Nigeria exhibits a statistically significant positive correlation, indicating that as community development costs increase, there is a corresponding rise in ROCE. The relationship between environmental restoration cost (ERC) and earnings per share (EPS) among listed manufacturing sector companies in Nigeria is characterized by a statistically significant negative correlation, indicating that as environmental restoration costs increase, there is a corresponding decrease in EPS. The relationship between community development cost (CDC) and earnings per share (EPS) among listed manufacturing sector companies in Nigeria is characterized by a positive correlation; however, this correlation is not statistically significant.

Based on the analysis and understanding of the relationship between environmental costs and financial performance of manufacturing companies, the following recommendations can be made:

It is recommended that companies should adopt a strategic approach to environmental restoration efforts. While these efforts are essential for long-term sustainability and corporate social responsibility, it's vital to balance them effectively with cost management to avoid short-term negative impacts on ROCE.

Management should continue investing in community development initiatives as they have the potential to enhance both their financial performance and societal impact. This will enable businesses to formulate more targeted strategies for optimizing their financial and social responsibility outcomes, ultimately creating a balanced approach that aligns corporate profitability with community-oriented goals and responsible business practices within the sector.
Management should prioritize and invest strategically in employee health and safety measures. These initiatives not only contribute to the well-being of the workforce but also positively impact financial performance.

Management should adopt a nuanced and well-balanced approach to environmental restoration efforts. While these initiatives are crucial for long-term sustainability and corporate responsibility, companies must carefully manage these costs to mitigate any temporary negative impact on EPS. This entails efficient resource allocation, cost control measures, and a proactive communication strategy to ensure that environmental responsibilities are integrated into the business model without compromising profitability.

Management should prioritize and further invest in employee health and safety measures. This should be viewed as a strategic investment that not only fosters a safe and healthy work environment but also positively impacts financial performance. Companies must recognize the long-term financial benefits of creating a secure and healthy workforce, which can lead to enhanced productivity, reduced liabilities, and improved overall organizational well-being.

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