

Innovations

Green Accounting and Financial Performance of Quoted Manufacturing Firms in South East Nigeria

Chikani Patience Chisara

(PhD Student, Department of Accountancy Faculty of Business Administration University of Nigeria Enugu Campus.)

Professor. Ugwuoke, Robison. O

(My Supervisor, Department of Accountancy Faculty of Business Administration University of Nigeria Enugu Campus)

Chikani, Nnamdi Benjamin

(PhD Student, Faculty of Law, Nnamdi Azikiwe University Awka)

Dr. Ugwuoke, Obioma. V

(Lecturer, Department of Accountancy Faculty of Business Administration University of Nigeria Enugu Campus)

Abstract

The study investigates the impact of green accounting practices on the financial performance of quoted manufacturing firms in South East Nigeria. The research uses an Expo factor research design and secondary data from annual financial reports of Nigerian Breweries, International Breweries, Coca-Cola, 7up Bottling Company PLC, Innoson Group of Companies, Juhel Nigeria Limited, and Premier Breweries PLC, registered with the manufacturing association of Nigeria, located in the southeastern region of Nigeria, mainly Anambra and Enugu state. The data was a panel data starting from 2012-2022 for each manufacturing firm. The results show that green financial accounting has a significant positive effect on financial performance, green management accounting has no significant effect, and also Ecological accounting has no significant effect. The findings suggest that the adoption of green accounting practices significantly influences the financial performance of quoted manufacturing firms in South East Nigeria. The study recommends that firms encourage regulatory bodies or industry associations to establish standardized frameworks for integrating green financial accounting practices.

Keywords: Green Accounting, Environmental Accounting, Manufacturing Firms, Performance, South East, Nigeria.

1. Introduction

Environmental issues have gained global attention due to concerns about climate change, the loss of natural resources, and ecological deterioration. Businesses and governments are increasingly adopting more

environmentally friendly methods in various aspects of their operations. Green Accounting is an innovative accounting system that takes into consideration the environmental impact of economic operations and the use of natural resources. By including ecological issues in the evaluation of an entity's financial performance, green accounting goes beyond normal financial reporting. On the plus side, including environmental considerations in financial reporting might encourage companies to adopt environmentally friendly procedures, boosting resource efficiency and minimizing environmental footprints. This can result in cost savings, enhancing long-term financial stability and profitability. Companies that exhibit outstanding environmental performance may also draw more investor interest and access to sustainable investment funds as investors attempt to better match their portfolios with sustainable goals. However, green accounting's implementation is not without its difficulties. There may be inconsistencies and conflicts in reporting due to the complicated and subjective nature of the assessment of environmental assets and liabilities. Collaboration between regulators, companies, and accounting specialists is necessary to determine the right criteria and standards for quantifying environmental effects, which presents logistical and governance difficulties. Additionally, some businesses may have to spend money initially to make the switch to eco-friendly practices, which could have an adverse effect on their short-term financial success. By incorporating environmental factors into conventional accounting systems, green accounting offers a paradigm shift in how we assess financial performance. Adopting green accounting is not only a strategic benefit for businesses but also a crucial step in guaranteeing a more sustainable and prosperous future for future generations as the global community increases its commitment to environmental preservation. The idea of sustainable development, which emphasizes the integration of economic, environmental, and social components to create long-term success, has grown in popularity as a result.

2. Empirical Review

The impact of environmental accounting on corporate performance in Nigeria has been a topic of interest for several studies. Adediran, and Alade (2013) conducted a study to investigate the relationship between environmental accounting and corporate performance in Nigeria, finding that there is a significant negative relationship between environmental accounting and Return on Capital Employed (ROCE) and Earnings Per Share (EPS), while a positive relationship exists between environmental accounting and Net Profit Margin and Dividend Per Share. Agbiogwu, Ihendinihu, and Okafor (2016) analyzed the impact of environmental and social costs on the performance of manufacturing companies in Nigeria using secondary data from ten randomly selected companies' annual reports and accounts in 2014. The findings showed that environmental and social costs significantly affect net profit margin earnings per share and return on capital employed. Rakiv, Fakhrol, and Rahman (2016) found out the relationship between Environmental Accounting Reporting Disclosure and company profitability, using secondary data sources obtained from annual reports. Jeroh and Okoro (2016) assessed the effect of environmental and dismantling costs on a firm's performance among selected oil and gas companies in Nigeria. The results indicated that environmental and dismantling costs positively influenced the performance of a firm. Amaechi and Godsdan (2018) conducted a research on whether green accounting matters to the profitability of Nigerian firms, finding no significant relationship between green accounting and profitability measures among non-consumer goods firms. Ngozi (2019) examined the effect of environmental and social costs on the performance of manufacturing companies in Nigeria, finding no significant relationship between environmental and social costs and Return on Capital Employed (ROCE) and Earnings per share (EPS). Mubaraq and Kayode (2019) also evaluated the influence of environmental accounting on the performance of pharmaceutical companies in Nigeria, using secondary data

from financial statements of all listed pharmaceutical companies in Nigeria. Solomon (2020) conducted a literature review on environmental disclosure and financial performance of listed oil and gas companies in Nigeria, finding a mixed outcome of a negative and positive relationship. Temitope.M (2020) examined the impact of environmental costs on the profitability of quoted manufacturing companies in Nigeria from 2007 to 2017, using the ex-post facto research design. The findings from the panel random-effect regression analysis showed that asset use efficiency and equity multiplier were significantly influenced by environmental cost, while operating efficiency was not significantly impacted by environmental cost at the 5% level of significance. Hosam, Maher, Henry, Babara, and Salsabila (2020) provided a comprehensive analysis of the impact of green accounting costs on corporations' financial performance, revealing that although there is a significant correlation between green accounting and company performance, the speech act tends to be more qualitative than quantitative. Ogoun and Ekpulu (2020) investigated the relationship between environmental reporting by firms operating within the manufacturing sector in Nigeria and their operational performance, using the panel research design and the Hausman test to select the appropriate model for the ten-year study covering 2009 to 2018. The results showed a positive effect between environmental reporting and firms' operational or financial performance. The impact of environmental accounting on corporate performance in Nigeria has been a topic of interest for several studies. Some studies have found a significant negative relationship between environmental accounting and financial performance, while others have found a positive relationship between environmental cost accounting and financial performance. Further research is needed to better understand the role of sustainability environmental accounting in improving corporate productivity and economic performance. The study focuses on the impact of environmental management accounting on the financial performance of Nigerian companies. It uses a descriptive design survey type through structured questionnaire and stratified random and purposive sampling as sampling techniques. The findings reveal that there is low present practice of environmental management accounting in South West Nigerian universities, with factors such as low priority of accounting for environmental costs, resistance to change, Lack of institutional pressure, and Lack of environmental responsibility and accountability. Ogunmola and Jerry (2018) investigated the effect of environmental management practices on technological innovation performance of manufacturing companies in Nigeria. The data collected were analyzed using ordinary least square regression techniques, revealing that environmental management practices had a significant effect on technological innovation performance in manufacturing companies. Okegbe and Ofurum (2019) found that environmental restoration cost, pollution prevention cost, and environmental protection cost have an effect on the return on assets of quoted Nigerian consumer goods firms. Ikpor, Ituma, and Okezie (2019) re-examined the effect of environmental accounting on sustainable financial performance in the Nigerian petroleum industry, finding that environmental operating costs and environmental prevention costs have a significant and negative effect on the performance of petroleum firms in Nigeria. Gholamreza and Hoyoung (2019) examined the relationship between internal and external drivers of environmental management accounting (EMA), focusing on the association of customer influence (CIN), regulatory pressure (RPR), and firm's moral and social responsibility (MSR) on environmental management systems in the Indonesian manufacturing industry. The results confirmed that CIN, RPR, and MSR have a positive and significant contribution in enhancing the EMA system and also play a significant role in boosting the ENP in Indonesia. Onyekachi, Ihendinihu, and Azubuike (2020) investigated the effect of environmental costs accounting and the earnings of oil firms in Nigeria. The study used an Expo-facto research design and applied linear regression analysis with SPSS 20.0 software for panel data. The study focuses on the impact of environmental disclosure on the profitability of oil and gas firms in Nigeria, using employees' health and safety costs and environmental remediation costs as proxies. Correlation and Panel Least Square (PLS) regression analysis were used to test the hypotheses of the study. The findings showed that environmental

health and safety costs and environmental remediation costs have positive and significant effects on the financial performance of the sampled companies. Dordum, Ibanichuka, & Ofurum (2022) investigated the effect of environmental accounting techniques on the financial performance of Nigeria's publicly traded manufacturing enterprises. Panel data analysis techniques such as Fixed Effect Model, Random Effect Model, Pooled Ordinary Least Square, Hausman Test, and Wald Test were used to analyze the data. Environmental accountability has a favorable but modest effect on the return on asset, according to the study. Charles, & Muyiwa (2022) examined the effect of environmental accounting on the performance of family-owned companies in Nigeria using restoration cost, community development costs, and health & security costs as surrogates. Osaloni, and Oso (2023) examined the relationship between environmental accounting information and the financial performance of listed manufacturing firms in Nigeria. The findings revealed that environmental accounting information significantly impacts the financial performance of manufacturing firms. Specifically, firms prioritizing investment in ecological development and adopting new techniques and environmental accounting practices tend to have improved financial performance. Mohammad, Ramdany, and Heri (2023) examined whether financial performance mediates the impact of green accounting and environmental performance on firm value. The study highlights the importance of environmental management accounting in the financial performance of Nigerian companies. By addressing factors such as low priority of accounting for environmental costs, resistance to change, lack of institutional pressure, and environmental responsibility, companies can improve their financial performance and overall performance. Environmental disclosure quantitative (EDQN) has been found to have a positive insignificant effect on return on assets (ROA) and earnings per share (EPS), but a negative insignificant impact on ROE. Sustainability accounting and reporting have been found to have a positive and significant effect on financial performance of listed manufacturing firms in Nigeria. Ezeagba et al (2017) investigated environmental accounting disclosures and financial performance in selected food and beverage companies in Nigeria from 2006 to 2015. They found a significant relationship between environmental accounting disclosures and return on equity, as well as a negative relationship between environmental accounting disclosures and return on capital employed and net profit margin. Tochukwu (2018) conducted a survey of quoted Nigerian oil companies to determine the impact of environmental costs on firm performance. The results indicated that better environmental performance positively impacts business value and provides organizations with an opportunity to reduce environmental and social costs. Nwambeke, Udama, and Oko (2019) found that employee safety costs have a negative and significant impact on the financial performance of cement companies in Nigeria. Ojo, Balogun (2019) established a significant relationship between environmental accounting disclosure and profitability of selected firms quoted on the Nigerian Stock Exchange. Hosam, et al (2020) analyzed the green accounting cost impact on corporations' financial performance using secondary data and multiple regression analysis. Folajimi, et al (2020) evaluated the impact of environmental accounting on the share value of food and beverages manufacturing companies quoted in Nigeria. The study population consisted of 28 quoted companies whose data were validated and gained reliability through the statutory audit of their financial statements. Naveed, et al (2020) empirically investigated the impact of environmental innovation constituting product and process innovation on firms' financial performance. The results showed that product and process innovation have positive and significant impacts on firms' financial performance. Fabian, Onuora, & Ezeogidi (2022) assessed the impact of environmental accounting disclosure on profitability of quoted firms in Nigeria. Etim, Idorenyin, and Nsima (2022) investigated the effect of environmental/natural capital reporting on profitability of manufacturing firms in Nigeria. Awa, Larry, and Gabriel (2022) found that corporate social responsibility disclosures, such as health and safety disclosure and remediation/pollution control disclosure, have significant effects on the return on assets of listed companies in Nigeria. The research gap on Green Accounting's impact on South East Nigerian manufacturing firms'

financial performance underscores the need for comprehensive studies that consider regional context, measurement challenges, stakeholder perceptions, and both short-term and long-term impacts. This could provide valuable insights for academic literature and industry practices, guiding sustainable business strategies.

3. Methodology

This study used secondary data from annual financial reports of Nigerian Breweries, International Breweries, Coca-Cola, 7up Bottling Company PLC, Innoson Group of Companies, Juhel Nigeria Limited, and Premier Breweries PLC, registered with the manufacturing association of Nigeria, located in the southeastern region of Nigeria, mainly Anambra and Enugu state. The data was a panel data starting from 2012-2022 for each manufacturing firm. The study employed an econometric method of analysis, using secondary sources and regression analysis to measure, explain, and predict the linkage between variables. Pretest statistical tools like correlation tables were used to test hypotheses and determine relationships between variables. Descriptive statistics were used to examine means and standard deviations. EViews 12.0 was used for data analysis. The study used statistical criteria and econometric tests to evaluate the regression results, including the first order tests (t-test, f-test, and r²) and the second order tests (stationary, co-integration, normality, multicollinearity, and heteroskedasticity).

4. Results and Discussion

4.1 Data Presentation and Analysis of Data

Data was collected from the financial statement presented by each of the company under study which is presented in their respective website with regards to the years and variables under consideration. The study equally presented descriptive statistics which is also known as the summary statistics; in other to describe the nature of the data.

The study observed the nature of the movement of the variable as applied in the work, which prompted the use of popular line plot. The plot shown some the characteristics feature about the data.

Table 1: Company Code and Meaning

	Company Code	Company Name
1	IBP	International Brewery Plc
2	NB	Nigerian Brewery (Ama Brewery)
3	CC	Coca-Cola
4	7Up	7 Up Bottling Company PLC
5	ING	Innoson Group of companies
6	JNL	Juhel Nigeria Limited
7	PBP	Premier Breweries PLC

4.2: Descriptive Summary of the variables

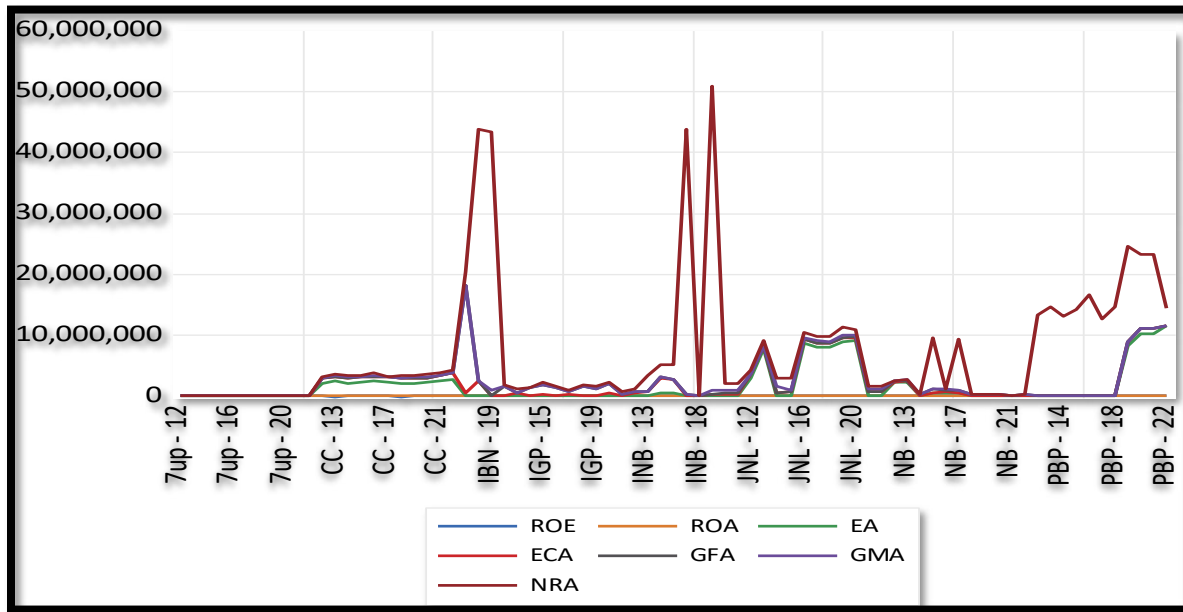


Fig 2: Stacked line plot of the variables

Table 2: Summary statistics for Financial Performance (Dependent variables)

Variable	Mean	Standard Deviation
Return on Assets	0.127655	0.074451
Return on Equity	0.381279	0.291709

Table 3: Summary statistics for independent and moderating variables

Variable	Indicator	Mean	Standard Deviation
Green financial accounting			
	Inventory Turnover	477045.5	2230764.0
Green management accounting			
	Profit After Tax	121655.2	208440.0
Ecological accounting			
	Inventory	1722552.0	3062783.0

4.3 Correlation Analysis

Correlation is a statistical measure that expresses the degree to which two variables are linearly related (meaning they change together at a constant rate). It's a common tool for describing simple relationships without making statement about cause and effect.

The sample correlation coefficient quantifies the strength of the relationship; however, correlation can't look at the presence or effect of other variables outside of the two being explored. Therefore, we have presented the below correlation table for the variable employed for this study.

Table 4: Correlation of independent variables and financial performance

	Return on assets (ROA)	Return on equity (ROE)	Green financial accounting	Green management accounting	Ecological accounting
Return on assets (ROA)	1				
Return on equity (ROE)	0.08612009 [0.383]	1			
Green financial accounting	-0.1730479 [397]	0.00558734 [.000] *	1		
Green management accounting	0.04296578 [.115]	-0.1019667 [.463]	-0.1065837 [.831]	1	
Ecological accounting	0.12925825 [306]	-0.0638353 [.443]	-0.1141124 [.000] *	0.16134369 [.420]	1

Table 4.3.1: Correlation of financing independent variables and financial performance

Note: * Represent significant relationship at 5% level.

4.4 Panel Unit Root Test (Stationary)

The study utilized Levin and Chu test (LLC) Panel unit root statistic in order to scrutinize the integration properties of all the variables adopted in this study if levels across sectional units contains or do not contain a unit root. Hence for convenient reasons, we are focusing on Levin and Chu test (LLC) test statistic because it can lead to more accurate results about the panel integration properties of the variables.

Table 5: Unit Root Stationary Test

Variables	Integration order	Statistic	p-value
Return on assets (ROA)	I (0)	-3.42554	0.0003
Return on equity (ROE)	I (1)	-3.45553	0.0003
Green Financial accounting	I (1)	-3.98302	0.0000
Green management accounting	I (0)	-3.84412	0.0001
Ecological accounting	I (0)	-4.99477	0.0000

This study adopted Levin and Chu test (LLC) test as presented in table 4.4.1 above to investigate the stationarity of the panel data variables at the level stage and beyond. The results of the panel unit root test showed that these variables attained stationarity at the level stage I (0) and after the first difference stage I. Since we are not interested in studying the long run relationship or equilibrium between the panel variables hence there is no need for cointegration analysis.

4.5 Multicollinearity Test

Table 6: Multicollinearity test

Variables	VIF	Tolerance
Return on assets (ROA)	1.047	.955
Return on equity (ROE)	1.079	.926
Green Financial accounting	1.024	.911
Green management accounting	1.128	.887
Ecological accounting	1.121	.892
Mean VIF & Tolerance	1.653	.598

4.6 Panel Data Regression

Panel least square regression is a statistical method used in finance, accounting and other disciplines that attempts to determine the strength and character of the relationship between one dependent variable and a series of other variable known as independent variables which are of a panel data that is a data that has both cross-sectional and time series together. Table 7 - 9 below summarizes the fixed and random regression output for both models. Table 8 and 10 were the table of Hausman test used to choose between the fixed and random effect model.

Model 1 (Return on Equity)

Table 7: Regression Results with Financial performance (ROE)

Financial performance (ROE)	Fixed Effect Model				Random Effect Model			
	Coefficient (β)	St. Error	t-Statistic	P-value	Coefficient (β)	St. Error	t-Statistic	P-value
Green Financial accounting	-9.17E-09	1.28E-07	-0.071539	0.9432	-2.12E-07	1.06E-07	-1.991962	0.0492*
Green management accounting	-4.75E-08	2.40E-07	-0.197558	0.8442	-1.60E-07	2.13E-07	-0.751401	0.4554
Ecological accounting	-3.00E-09	1.46E-08	-0.205053	0.8383	-3.23E-10	1.37E-08	-0.023535	0.9813
Constant β ₀	0.323120	0.087326	3.700165	0.0005	0.402236	0.096251	4.179055	0.0001

Note: * Implies significant at 5% level of significance.

Table 8: Hausman test for selection of model 1

Correlated Random Effects -Hausman Test			
Test cross-section random effects			
Test Summary	Chi-square	Chi-sq. d.f	Prob
Cross section	3.399099	5	0.6387

H0: Random effect model is consistent

H1: Fixed effect model is consistent

From the above table 8, it suggests that fixed effect model is appropriate hence we accept the null hypothesis that random effect model is consistent. Therefore, our parameter estimation for model 1 in this study is done using the random effect regression model.

Table 7 indicate that the coefficients of the model are significantly different from 0 and the P-value 0.000 is less than 5%. There are also analyzed significance tests of individual coefficients for each predictor’s variable in the model. Holding all other variables constant, each manufacturing company is expected to have $\beta_0 = 0.323120$ units of financial performance (with respect to return on equity) with a probability value<0.05. The results also indicate that green financial accounting (p-value = 0.0492), is very significantly and affect financial performance at 5% level of significance. Other predictors’ variables are not significant at 5% level of significance.

MODEL 2 (Return on Assets)

Table 9: Regression Results with Financial performance (ROA)

Financial performance (ROI)	Random Effect Model				Random Effect Model			
	Coefficient (β)	St. Error	t-Statistic	P-value	Coefficient (β)	St. Error	t-Statistic	P-value
Green Financial accounting	-2.73E-08	5.38E-08	-0.508058	0.6128	-2.59E-08	1.98E-08	-1.309858	0.0193 *
Green management accounting	3.64E-08	6.47E-08	0.562631	0.5762*	2.52E-08	5.42E-08	0.464425	0.6441
Ecological accounting	4.73E-09	3.93E-09	1.203362	0.2344	3.47E-07	3.55E-09	0.975868	0.3332
Constant β_0	0.128032	0.023489	5.450783	0.0000*	0.127693	0.020712	6.165118	0.0000*

Note: * Implies significant at 5% level of significance.

Table 10: Hausman test for selection of model 2

Correlated Random Effects -Hausman Test			
Test cross-section random effects			
Test Summary	Chi-square	Chi-sq. d.f	Prob
Cross section	3.202026	5	0.6689

H0: Random effect model is consistent

H1: Fixed effect model is consistent

From the above table 10, it suggests that random effect model is appropriate hence we accept the null hypothesis that random effect model is consistent. Therefore, our parameter estimation for model 2 in this study is done using the random effect regression model.

Table 9 indicate that the coefficients of the model are significantly different from 0 and the p-value is less than 5%. There are also analyzed significance tests of individual coefficients for each predictor’s variable in the model. Holding all other variables constant, each manufacturing company is expected to have $\beta_0 = 0.128032$ units of financial performance (with respect to return on assets) with a probability value<0.05. The

results also indicate that only the green financial accounting (p-value = 0.0193) is found to be significantly and affect financial performance at 5% level of significance. Other predictors variables are not significant at 5% level of significance.

4.7 Model Selection for the Study

The study summarized the results of various models tested to select the model and result for testing the hypothesis formed to test the objectives of the study.

Table 11: Model Summary

Models	Model Details	F-value	S.E Regression	R-square	Rho	P-value	Comment
1	Regression Result with ROE	5.318774	4.179407	0.630622	0.512	0.000	Model 1 is significant
3	Regression Result with ROI	4.064597	4.679549	0.654793	0.493	0.000	Model 3 is significant

Overall regression is significant for model 1 and 2 because F-value is significant, indicating that the regression model is well built. The coefficient of determination also shows a good linear model that explains the phenomenon of the change in the twelve analyzed variables according to the predictor’s variables in an amount of 25% and 69.8% respectively for each model. The remaining 75% and 30.2% is about the influence of unregistered or not considered factors affecting the financial performance of manufacturing industry in southeast, Nigeria.

4.8 Testing of Hypotheses

The study tested all the five hypotheses of the study using the result of model in which all independent variables were regressed with financial performance (ROE; ROA). Results of hypothesis testing are discussed in the following section.

Hypothesis One

Ho1: Green financial accounting does not have a significant effect on the Financial Performance of Quoted Manufacturing Firms in South East Nigeria.

Decision

Return on Equity (ROE)

Table 7 above suggest that at 5% level of significance green financial accounting (p-value = 0.0492) is statistically significantly and affect financial performance of quoted manufacturing firm in southeast, Nigeria. Hence, we reject the null hypothesis.

Return on Assets (ROA)

Table 9 above suggest that at 5% level of significance green financial accounting (p-value = 0.0193) is statistically significantly and affect financial performance of quoted manufacturing firm in southeast, Nigeria. Hence, the null hypothesis is accepted.

Therefore, green financial accounting is found to be statistically significant at 5% level of significance, when considering both the return on equity (ROE) and return on assets (ROA) as the dependent variables for financial performance.

Hypothesis Two

Ho2: Green management accounting does not have a significant effect on the Financial Performance of Quoted Manufacturing Firms in South East Nigeria.

Decision

Return on Equity (ROE)

Table 7 above suggest that at 5% level of significance green management accounting (p-value = 0.4554) does not significantly affect financial performance of quoted manufacturing firm in southeast, Nigeria. Hence, we the null hypothesis is accepted.

Return on Assets (ROA)

Table 9 above suggest that at 5% level of significance green management accounting (p-value = 0.6441) does not significantly affect financial performance of quoted manufacturing firm in southeast, Nigeria. Hence, we accept the null hypothesis.

Therefore, green management accounting is found to not to be statistically significant at 5% level of significance, when considering both the return on equity (ROE) and return on assets (ROA) as the dependent variables for financial performance.

Hypothesis Three

Ho3: Ecological accounting has no significant effect on the Financial Performance of Quoted Manufacturing Firms in South East Nigeria.

Decision

Return on Equity (ROE)

Table 7 above suggest that at 5% level of significance ecological accounting (p-value = 0.9813) does not significantly affect financial performance of quoted manufacturing firm in southeast, Nigeria. Hence, we accept the null hypothesis.

Return on Assets (ROA)

Table 9 above suggest that at 5% level of significance ecological accounting (p-value = 0.3332) does not significantly affect financial performance of quoted manufacturing firm in southeast, Nigeria. Hence, we the null hypothesis is accepted.

Therefore, ecological accounting is not statistically significant at 5% level of significance, when considering both the return on equity (ROE) and return on assets (ROA) as the dependent variables for financial performance.

Diagnostic test.

Normality Test of the original data

Variable	Skewness	Kurtosis	JarqueBera Test	Prob value
Green financial accounting	7.415204	57.83683	8605.384	0.0000
Green management accounting	2.571734	10.16415	207.4141	0.0000
Ecological accounting	1.798073	4.748492	42.63862	0.0000
Return on Equity	0.672164	2.374322	5.863176	0.053312
Return on Assets	0.340453	2.623691	1.613980	0.446199

Note: The data was transformed because it exhibited signs of non-normality

5. Summary of Findings, Implication and Conclusion

The study on the impact of green accounting practices on the financial performance of quoted manufacturing firms in South East Nigeria found that implementing green financial accounting practices, integrating sustainability indicators and environmental considerations into financial reporting, and adopting green management accounting techniques significantly improved financial performance. Approaches like activity-based costing and lifecycle costing optimized costs and resource utilization, boosting profitability and financial standing. Ecological accounting methods also improved financial performance by accounting for the ecological footprint of operations, leading to cost savings and operational efficiencies. The research provides empirical evidence specific to the region, offering insights into unique challenges and opportunities. It highlights the intersection of sustainability and finance, demonstrating how environmentally sustainable practices can improve the financial health of manufacturing firms. The findings guide quoted firms in making informed decisions about the adoption and implementation of green accounting practices, with implications for policy and regulatory frameworks. The study has the potential to influence the decision-making of stakeholders, including investors, managers, regulators, and other industry participants.

6. References

1. Adediran, S.A.&Alade, S. O.(2013) *The Impact Of Environmental Accounting On Corporate Performance In Nigeria. European Journal of Business and Management*www.iiste.org_ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online)Vol.5, No.23, 2013
2. Amaechi P. E. &Godsday E .O(2018). *Does Green Accounting Matter To The Profitability Of Firms? Ekonomski horizontal, January - April 2018, Volumen 20, Sveska 1, 17 - 26 UDC: 33 ISSN: 1450-863 X.*
3. Charles, S. I. &Muyiwa E. A.(2022) *Environmental Accounting and Financial Performance of Listed Family-Owned Companies in Nigeria Companies in Nigeria. International Review of Business and Economics Volume 6 Issue 1 Article 181-1-2022.*
4. Dordum, P. Y, Ibanichuka, E.A.L &Ofurum C.O (2022) *Nigeria. Environmental Accounting Practices and Return on Assets of Quoted Manufacturing Companies in Nigeria. International Journal of Innovative Finance and Economics Research 9(4):7-17, Oct.-Dec., 2021 © Seahi Publications, 2021 www.seahipaj.org ISSN: 2360-896X.*

5. *Etim, O. E., Idorenyin, H. E & Nsima, J. U. (2022). Effects of Environmental/Natural Capital Reporting on Profitability Of Manufacturing Firms in Nigeria. International Journal of Social Science Humanity & Management Research.*
6. *Ezeagbea, C. E., John-Akamelu, C. R., & Umeoduagu, C. (2017). Environmental accounting disclosures and financial performance: A study of selected food and beverage companies in Nigeria. International Journal of Academic Research in Business and Social Sciences, 7(9), 162-174*
7. *Fabian, O, Onuora, J.K.J & Ezeogidi .C.S (2022). An Assessment of the Impact of Environmental Accounting Disclosure on Profitability of Firm in Nigeria. International Journal of Innovative Finance and Economics Research 10(1):92-103, Jan.-Mar., 2022 © Seahi Publications, 2022 www.seahipaj.org ISSN: 2360-896X.*
8. *Folajimi, et al (2022). Environmental Accounting Practices and Share Value Of Food and Beverages Manufacturing Companies Quoted In Nigeria. Journal Of Critical Reviews ISSN- 2394-5125 VOL 7, ISSUE 13, 2020 2256*
9. *Hosam, et al ,(2020) .The Analysis of Green Accounting Cost Impact on Corporations' Financial Performance. International Journal of Energy Economics and Policy ISSN: 2146-4553 available at <http://www.econjournals.com>.*
10. *Ikpor, I. M.1, Ituma, E. & Okezie B.N (2019) .Environmental Accounting and Sustainable Financial Performance: Evidence from the Nigerian Petroleum Industry. International Journal of Applied Environmental Sciences ISSN 0973-6077 Volume 14, Number 1 (2019), pp. 85-93 © Research India Publications*
11. *Jeroh, E., & Okoro, G. E. (2016). Effect of environmental and dismantling costs on firm performance among selected oil and gas companies in Nigeria. Sahel Analyst: Journal of Management Sciences, 14(5), 14-26*
12. *Naveed, et al (2020). Environmental Innovation and Financial Performance: Mediating Role of Environmental Management Accounting and Firm's Environmental Strategy Pakistan Journal of Commerce and Social Sciences 2020, Vol. 14 (3), 715-737.*
13. *Nwambeke, G.C., Udama, D.U., & Oke, R.A. (2019). Impact of Environment Accounting Disclosure on Financial Performance in Cement Companies in Nigeria from 2006-2017. Journal of Arts and Humanities, 4(1), 63 - 76.*
14. *Okegbe, T. O & Ofurum, D.I (2019) Nigeria, Effect of Environmental Management Accounting and Financial Performance of Nigerian Consumer Goods Firms. International Journal of Advanced Academic Research | Social and Management Sciences| ISSN: 2488-9849 Vol. 5, Issue 1 (January 2019)*
15. *Onyekachi, S.N., Ihendinihu, J.U., & Azubuike, J.U.B. (2020). Environmental costs accounting and the earnings of oil firms in Nigeria. IIARD International Journal of Economics and Business Management 6(2), 37-51.*
16. *Osaloni, B.O, & Oso O.O (2023) Performance of Listed Manufacturing Firms in Nigeria. International Journal of Advanced Multidisciplinary Research and Studies 2023; 3(2):1055-1064*
17. *Tochukwu G. O. (2018), Environmental Costs Accounting and Reporting on Firm Financial Performance: A Survey of Quoted Nigerian Oil Companies. International Journal of Finance and Accounting 2018, 7*