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Environmental Accounting Practices and Stakeholder Value of Selected Listed Companies in Nigeria

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Abstract:
The corporate legitimacy of operations and corporate brand of companies have been enhanced when companies cultivate environmental accounting practices reflecting their operations' transparency and accountability. Incidentally, Prior studies have shown that stakeholder value had deepened greatly due to inadequate environmental accounting practices in Nigeria. However, the extent of environmental accounting practice in Nigeria remains uncertain. Consequently, this study examined the effect of environmental accounting practices on stakeholders' value of selected listed companies in Nigeria. The study employed an expo facto research, using data sourced from the financial statements of the selected companies. The study population consisted of 173 listed companies in Nigeria, while 20 companies were selected using a purposive sampling technique for a period of 15 years spanning from 2007 to 2021, giving 225 observations. The validity and reliability of the data were premised on the certification of the financial statements by the external auditors. Pooled panel regression was employed for the data analysis based on the Global Reporting Initiatives index of environmental accounting practices. Based on the analysis, the results revealed that environmental accounting practices had a positive effect on stakeholders' value in Nigeria ($AdjR^2$ = 0.164; F/Wald test (5, 294) = 16.44; p <0.05). The study recommended that managers should comply with environmental accounting practices, while the environmental regulators should insist on corporate compliance with the existing environmental accounting practices and sanction defaulting companies.

Keywords: *Accountability, environmental accounting practices, environmental protection, stakeholders value, transparency, water management, safety measures*

1. Introduction

The growing demands and expectations of the stakeholders have become an increasing burden for the management of companies to meet. Stakeholder value is concerned with all possibilities of creating the desired optimal level of returns for all stakeholders who have invested interests in an organization. The stakeholders' value has been discussed in the literature by different studies from different dimensions. According to Al-Jaifi (2020), the stakeholders' value is more broad-based than what many studies have considered. In comparison, some studies have seen the stakeholders' value to reflect the profit maximization and deliberate action of the management to pursue strategic actions and optimal investment decisions that have the propensity to consistently increase the economic value of using corporate resources and efforts to improve corporate stock prices which every interest group in the stake of the company will benefit from (Hussain, Slusarczyk, Kamarudin, Thaker & Azczepa, 2020). According to Hu, Du, and Zhang (2020), stakeholders' value is all about creating economic value and optimal benefits returns from the operational operations of the organization.

Maundu (2020) argued that in the emerging literature, new attention has been shifted from shareholders' wealth maximization to stakeholders' value creation for the interest of the shareholders to more expanded and inclusive interests, including the interest of more stakeholders. The dominance of shareholders in the literature is gradually fading and less in popularity, giving way for now thinking of stakeholders' value. However, the problems of stakeholder value have been those of financial measures and adequate and appropriate metrics for a precise assessment and measure of stakeholder value. Studies by Akther and Xu (2020) and Aguguom and Ajayi (2020) have considered the problem of stakeholder's value from the perspective of extended demands of stakeholders, as the focus of stakeholders does not end in economic value but includes sustainability reporting, economic, social performance of the managers.

Cosmulesea, Socoliuca, Ciubotariua, Mihailab, and Grosu (2019) opined that stakeholder value is a concerted effort of the management to make investment decisions capable of creating economic value for the collective interest of the multiple stakeholders. According to Al-Amin, Filho, and Kabir (2018), stakeholder value emerged from the understanding that the lopsided objective of shareholders dominating interest is harmful to the other stakeholders, the society, and the environment. The short-term profit maximization and shareholders' wealth maximization dominate the interest of the managers to such an extent that other stakeholders have been disadvantaged.

The major concern and problem of this study is stakeholder value, while the study attempts to address the problem of environmental value with effective environmental accounting practice. A few researchers noted that while the

managers are highly constrained to create adequate stakeholders value, the concept seems quite elusive. It is also immeasurable, unquantifiable, and difficult to determine. However, Chukwu and Timah (2018) argued that environmental accounting practices have the ability to attempt the problems of stakeholder value and the other concerns of the critics of stakeholder value. Adegbie and Adesanmi (2020) reported that effective environmental accounting has been considered in literature from the perspective of financial value using economic value added (EVA) as an appropriate measure of stakeholders' value. Environmental accounting practice recognizes corporate transparency, accountability, and other measures. It is believed that ethical corporate behaviors are capable of:

- Increasing the economic value of the stakeholders,
- Enhancing stock price performance by a rare display of adequate managerial competence and corporate competitive determination to improve net profit margins, return on assets, earnings per share, and price/earnings ratio performances

Al-Amin, Filho, Abudul, and Kabir (2019) noted that stakeholder value resides in the improved net profit and adequate cash flow from the operation that will improve value-added cash flows. For instance, the stakeholders, comprising the shareholders, employees, investors, lenders, government, creditors, suppliers, and the communities, derive one benefit or the other from the economic value creation by organizations. In pursuance of optimizing stakeholder value, managers tend to compromise quality and corporate values to meet varied demands from diverse stakeholders. On the contrary, Tialian and Topumani (2020) observed that stakeholder value could be intrinsic in nature, while others prefer risk management as a way of creating and preserving the stakeholders' value. Akpan and Uwakmfonabasi (2021) documented that managers' ability to ensure effective resource management in directing and managing human and capital resources of the organization and efficient organizational performance tend to create value for the stakeholders.

Environmental accounting practices are the process by which organizations make decisions and processes to strengthen their corporate relationship with various stakeholders to improve their level of corporate legitimacy and corporate reputation and enhance corporate performance (Alami, 2020; Ilemena, 2020). Mojarad, Vahid, and Alfredo (2018) noted that environmental accounting practice had a positive effect on stakeholders' value. While Omoloso, Wise, Mortimer, and Jraisat (2020) reported that environmental accounting practice had a correlation and link with the performance of stakeholder value. According to Olusola, Solanke, Adeusi, Alade, and Aggaje (2022), environmental accounting practices have impacted employee relations, effective and improved product quality resulting from product strategies contribution, and substantial reduction of cost of equity.

In recent studies, a growing concern has emerged about the impact of environmental accounting practices on their stakeholders' value creation and effective organizational performance. According to Yuliarini, Othman, and Ismail (2017), organizational incentives for transparency and ethical environmental accounting practice have improved corporate operational legitimacy and corporate reputation, and investors' agitation for openness and accountability in disclosing corporate efforts in honest and delivery of quality products and services.

Adegbie, Ekpeni, and Owolabi (2021), Falope, Offor, and Ofurum (2019), Lee, Lee, and Cho (2019), Ahmad, Tawfiq, Ayman and Sakher (2019), and Aziz (2019) have reported that environmental accounting practices had a positive effect on stakeholders value creation. Ahmad *et al.* (2016) revealed that environmental accounting practice positively impacted stakeholders' economic value. It suggests that when there is evidence of ethical and cultural values, compliance with the regulatory and legal framework, and effective responsiveness of companies to corporate social responsibilities, the value of the firm improves and ultimately improves stakeholders' value. Also, Suprita (2018) documented that accounting practices positively influenced the stakeholders' value resulting from the economic value added to the firm.

On the contrary, other studies have found contradictory results. Obiora, Ven, Onuoha, and Chioma (2022) and Zhao, Meng, He, and Gu (2019) revealed an inverse relationship between environmental accounting practice and stakeholders' value. Obiora *et al.* (2022) showed that economic, social, and environmental disclosure had a negative effect on stakeholder value. In a similar study, Zhao et al. (2019) reported that sustainability reporting had a negative effect on stakeholders' economic value.

Consequent to divergent opinions and mixed results from the prior studies, inconsistency of results had subsisted, creating gaps in the literature and the need for further studies. In contributing to the existing studies and filling gaps in the literature, this study offered to attempt the problem of stakeholder value using environmental accounting practices, hence proposing the following research objective, research question, and research hypotheses:

- Research Objective: Investigate the effect of environmental accounting practices on stakeholders' value of selected listed companies in Nigeria.
- Research Question: To what extent does environmental accounting practice effect stakeholders' value of selected listed companies in Nigeria?
- Research Hypothesis: Environmental accounting practices have no significant effect on stakeholders' value of selected listed companies in Nigeria.

The rest of the study was fashioned in this manner: Section 2 considered the literature review and theoretical framework. In section 3, the study presented methodology, while data analysis, results, and discussion of the regression results were in section 4. Then in section 5, the study considered the conclusion, recommendations, and contribution to future studies.

2. Literature Review and Theoretical Framework

2.1. Literature Review

2.1.1. Stakeholders' Value

Shareholders' value entails creating economic value added for all the stakeholders other than the traditional shareholders. According to Akther and Xu (2020), vast studies have considered shareholders' wealth maximization as the primary objective of the companies. As a result, all strategic investments and investment decisions must be tailed toward maximizing the shareholders' wealth model. However, this model is fast fading, and contemporary thinking has revolved around stakeholders. The essence of management to create value will be inclusively encompassing that will be beneficial for all the stakeholders. For instance, the government, employees, suppliers, lenders, customers, the community, and all the stakeholders will be affected directly or indirectly by the fortunes or misfortunes of a particular company (Aguguom, Ajayi, 2020; Tialian & Toumani, 2020). In prior studies, the contentious issue has been an appropriate measure of stakeholders' value. According to Cosmulesea *et al.* (2019), economic value added (EVA) has been adjudged an innovation and better corporate performance measure as it considers the accounting earnings as well as residual income of the company. EVA is better at measuring metrics than traditional performance, which considers only the traditional accounting profits in explaining stock returns (Alazzani, Hassanein & Aljanadi, 2017; Hussain, Rigoni & Orji, 2018). In this study, EVA was employed as a surrogate to measure stakeholder value.

2.1.2. Economic Value Added

Corporate organizations, in recent times, have embraced economic value added as an appropriate measure of corporate performance. Hussain, Rigoni, and Orji (2018) posited that economic value added (EVA) is one of the measuring metrics that measure the corporate financial performance of an entity based on the residual wealth and value created by the company. According to Maina (2018), apart from the balance scorecard that considers comprehensive corporate performance financial and non-financial perspectives, economic value considers the value that the managers have created for the owners and the other stakeholders in the company over a stipulated period of time. Economic value added (EVA) has been adjudged an innovation and better corporate performance measure as it considers the accounting earnings as well as residual income of the company. EVA is better at measuring metrics than traditional performance, which considers only the traditional accounting profits in explaining stock returns (Aguguom & Olanipekun, 2021; Taiwo & Owolabi, 2019).

2.1.3. Environmental Accounting Practices

Environmental accounting practices are the accounting and financial disclosure of environmental-related operational activities and integrated accounting, sustainability reporting, and accountability aimed at improving the environment and enhancing environmentally friendly products using all possible ethical guidelines and within the permits of the law. Environmental accounting practice in the global context has become a contemporary corporate culture aimed at improving the visibility and ethical acceptance of the corporate organization in society (Adegbie & Dada, 2018; Adegbie, Ekpeni & Owolabi, 2021). This has become necessary owing to the importance of practicing and disclosing environmental accounting information of the companies and in a deliberate act to improve the firm earnings as well as stakeholders' value, increase corporate reputation, and lower the cost of operations. Deswanto and Siregar (2018) reported that the positive impact of environmental sustainability practice is one of the incentives of the managers to be committed, as environmental sustainability practices tend to better and less risk management and therefore connected to stakeholders' value. Dike and Leyira (2018) concluded that environmental sustainability practice is closely associated with corporate financial performance, leading to corporate financial sustainability and strong connections with the stakeholders' value increase.

2.1.4. Water Management Disclosure Index

In environmental management, the managers are put under corporate pressure to report the extent of their water management and waste management disclosures. Some corporate organizations tend to consume a high volume of water which necessitates effective programs to manage water consumption and water waste management aimed at preserving and protecting the environment to avoid unethical water efficiency (Effiong, Oti & Akpan, 2019). In a previous study, Emeka-Nwokeji and Ossisioma (2019) observed that efficient water management and waste management enhance corporate image and water stewardship. Companies with track records of water control, management, and sustainability standards reporting under Global reporting initiatives (GRI):

- Tend to earn global stakeholders' performance recognition and
- Obtain solidified licenses for water management, giving the companies a competitive advantage in cost-effectiveness in water spending overheads and promoting sustainable water goals and objectives

Etale and Otuya's (2018) study revealed that water management and control positively impacted the firms' corporate performance. Ezeagba, John-Akamelu, and Umeoduagu (2017) reported that efficient water accounting improved the corporate impact of water usage in communities and corporate ecosystems, trade relationships, water risk management, and impact on the stakeholders. Falope, Offor, and Ofurum (2019) found that corporate water reporting had a positive effect on the financial performance of firms sensitive to large volumes of water use.

2.1.5. Environmental Disclosure Index

Environmental disclosure is concerned with the corporate-required obligation to the immediate and extended communities and the society at large to ensure the safety of the environment as a consequence of their operational activities capable of destroying the environment (Hong & Chao, 2018). According to Lee, and Cho (2019), the companies owe society an obligation to preserve and maintain the environment for now and future generations. Gunathilaka, Gunawardana, and Pushpakumari (2015) revealed that the environmental disclosure index assesses the companies' responsiveness in disclosing their level of environmental disclosure regulatory requirements. Taiwo and Owolabi (2019) opined that environment disclosure entails adequate accountability of the organization in fulfilling the stakeholders' information requirements. In Nigeria, the extent of environmental disclosure is quite uncertain, as studies have been divided on the extent of environmental disclosure in Nigeria. Eneh and Amakor (2019) noted that the weak and compromising dispositions of the regulatory agencies have given the companies the impression that they can go all along without complying with the existing environmental, legal, and regulatory requirements in Nigeria.

In more advanced economies, environmental disclosure issues are treated with global concern, and the regulator has demonstrated stringent measures as a company considers compliance critical (Ehimare, Taiwo & Okorie, 2013; Effiong, Oti & Akpan, 2019). The companies take environmental disclosure as one of the serious and compulsory requirements to comply. Otherwise, they will be sanctioned and lose corporate recognition and legitimacy. Environmental disclosure indexes are expedient as firm performance has been positively associated with environment disclosure index ratings (Li, Gong, Zhang & Koh, 2018). There is absolute control of the gas emission into society and the atmosphere, the carbon dioxide (CO_2), methane (CH_4), dinitro N_2O) and many others. On the contrary, the environment of Nigeria has grossly been violated by uncontrolled pollution (water, air, land, and the environment), degradation, and forest deforestation.

2.1.6. Safety Measures Disclosure Index

The environmental protection practice revolves around the safety and risk management of companies in compliance with safety standards. Ilemena (2020) noted that organizations owe a duty to their employees' ethical and social responsibilities of the safety of the working environment and adequate disclosure of such efforts in practice in line with regulatory requirements. The stakeholders are concerned with the firm's sustainability and growth, and the employees' position and safety are significant in improving the corporate performance of the organization (Haryono, Ward, Paminto & Ulfah, 2016). Hu and Lo (2018) revealed that the safety disclosure indexes are essential as a guide and form an integral of the operating manuals for a safe environment and good working environment. The companies need to disclose the work-related hazards and control measures, quality of products and remedial precautions and withdrawal procedures in events of defaults, processes to report workplace hazards, and in case of injuries, ill-health of a natural disaster like fire pouter points.

2.1.7. Social Responsibility Disclosure Index

In Nigeria, companies do not consider corporate social responsibility as important as it is supposed to be. This is because they do not deem it necessary for the social responsibility disclosure. The social responsibility disclosure index is concerned with the responsiveness of companies to disclose information on their social responsibility engagements. According to Hu, Du, and Zhang (2020), social responsibility refers to adequate information reporting in the financial or non-financial statements of companies about their interactions with their environment, the stakeholders, and the society in improving the standard of the environment. Hu *et al.* (2020) stressed that foreign and institutional investors are attracted to companies that have shown evidence of social responsibility services for the communities. Williams (2015) revealed that corporate social responsibility had a positive correlation with stakeholder value.

2.1.8. Compliance with Regulations and Laws Disclosure Index

Compliance with regulations and laws disclosure index reveals the extent companies are willing and determined to comply with legal and regulatory requirements of environmental protection and preservation. According to Yuliarini, Othman, and Ismail (2017), compliance with regulations and the law disclosure index reveal regulatory compliance of the companies to safety standards within their operational environment and jurisdictions. Stakeholders, international safety, and regulatory bodies expect companies to respect the laws of the land where they operate.

2.2. Theoretical Framework

2.2.1. Stakeholder Theory

The stakeholder theory was propounded by Freeman in the year 1984 in his famous book "Strategic management: A Stakeholder Approach (Booth & Zhou, 2017).

The stakeholder theory is concerned with the understanding that the company and its fortunes do not belong to the owners alone but also to the other constituencies who have vested interest in the company (Husted & Filho, 2016). The stakeholders' theory suggested that beyond the shareholders, there are also other stakeholders who are concerned and wish to be carried along by the management of companies on the running of the companies by being avail adequate information and their interest accommodated in the strategic decisions of the company (Mereine-Berki, Malovics, Toth & Cre-tan, 2017). The stakeholders' theory posited that stakeholders are but few among the interest groups that must not be left behind in the activities of the company. Che-Ahmad, Osazuwa, and Mgbaaame (2015) submitted that the stakeholders' interests include adequate information on the financial and non-financial position of companies, transparency and

accountability of the managers, credibility, and reliable accounting information contents in the financial statement. The stakeholders require trustworthy and honest information about the companies they are interested in because their investment decisions largely depend on this information (Rooks & Oikonomou, 2018).

2.2.2. Shareholder Theory

Shareholder theory suggests that the primary objective of management is nothing but the maximization of shareholders' wealth. The shareholder theory was developed by the Nobel Prize winner and Economists Friedman in 1962. He posited that shareholders are the residual owners of corporate organizations and that their interests ought to supersede the interest of the other stakeholders (Guthrie & Ward, 2006). The proponents of shareholders theory posited that shareholders of companies are the risk bearers and, in a real sense, are the owners of the organization. In contrast, the stakeholders are compensated in various ways for the services they render to the organization.

On the contrary, while the shareholders' wealth maximization could be acclaimed as the main objective and goal for setting up a business venture, some studies have contradicted this assertion (Maina, 2018; Deswanto & Siregar, 2018). According to Maina (2018), stakeholders equally have invested interest in the fortunes and corporate existence of the companies. Without the contribution of the stakeholders like the employees, the government, suppliers, lenders, and customers, the company may not progress or grow. Maina and Udolty (2019) submitted that the performance, growth, and sustainability of corporate organizations largely depend on the support and patronage of the stakeholders.

2.3. Empirical Review

Obiora, Ven, Onuora, and Chioma (2022) considered the examination of environmental accounting reporting on companies' profitability performance in selected companies quoted in Nigeria. The study employed an expo facto research design for a period of 5 years. The study adopted pooled regression analysis using identified environmental index data based on the level of disclosure of the sampled companies from their reported financial statements. The results of the regression based on the joint statistics of the F-statistics found that environmental accounting reporting was inadequate among the listed companies in Nigeria. It further revealed that a negative effect of environmental accounting reporting on corporate profitability performance was reported.

Adegbie, Epkeni, and Owolabi (2021) investigated the impact of environmental accounting practices on the firm value of selected manufacturing companies listed in Nigeria. The study employed secondary data extracted from the financial statements of the 11 selected manufacturing companies for a period of 12 years spanning from 2008 to 2019. The study employed pooled ordinary least square estimation, and the result of the study revealed that environmental accounting practice had a positive effect on firm value for the period sampled.

Zhao, Meng, He, and Gu (2019) considered the effect of environmental and social responsibility reporting on corporate competitive advantage and performance of companies listed in China. The study adopted a survey research design, using structured questionnaires administered to a total of 269 respondents of 112 companies listed in China. Based on the analysis of the retrieved questionnaires, the study regression analysis revealed that environmental and social responsibility had a negative effect on firm performance, according to the opinion of the respondents.

Similarly, the study of Falope, Offor, and Ofurum (2019) studied the possible implication of the effect of environmental accounting practice from eth cost reporting on firm corporate performance. The study employed an expo facto research approach using secondary data from eth financial statements of the selected environmental polluting companies. Based on the analysis carried out the study, the study found that environmental accounting practice and cost disclosures had a positive effect on the corporate performance of the companies tested.

In addition, Lee, Lee, and Cho (2019) undertook an examination of the effect of corporate social responsibility on the corporate firm value of selected firms in Korea for an unspecified period. The study used an expo facto research design, while the data were extracted from the financial records of the companies from the central database in Korea. The study revealed that several studies supported the result that corporate social responsibility had a positive effect on firm value. This result was found consistent with the result obtained in the study of Falope *et al.* (2019).

Ahmad, Tawfiq, Ayman, and Sakher (2019) studied the impact of corporate social responsibility on the competitive advantage and corporate performance of some selected companies in Jordan. The study employed a combination of survey and expo facto research designs for the study. The study considered regression of the data extracted from the financial statements alongside the data obtained from the respondents. A joint regression of the data using multiple regression analysis revealed that corporate social responsibility had a positive effect on the corporate performance of the companies in Jordan for the period under consideration.

Aziz (2019) studied the possible association between environmental reporting based on the managerial competence and organizational performance of selected food processing companies registered and operating in Malaysia. The study sampled a selected 330 food and beverages processing companies in Malaysia, using data sourced from the selected companies. The regression analysis revealed that environmental reporting and managerial competencies had a positive effect on the organizational performance of the companies.

Suprita (2018) examined the influence of effective environmental and sustainability information disclosure on the financial performance of the selected firm. The study employed secondary data of the companies from the companies' financial records. Pooled regression analysis was carried out, and the result of the study regression analysis revealed that effective environmental and sustainability information reporting positively influenced the financial performance of eth companies tested in the sample size. Considering the result of environmental accounting practice, the result obtained by Suprita (2018) was found to be consistent with the prior studies by Lee et al. (2019).

3. Methodology

This study examined the effect of environmental accounting practices on stakeholders' value of selected listed companies in Nigeria. The study employed an expo facto research, using data sourced from the financial statements of the selected companies. The population of the study consisted of 173 listed companies in Nigeria, while 15 companies were selected using a purposive sampling technique for a period of 15 years spanning from 2007 to 2021, giving 225 observations. The validity and reliability of the data were premised on the certification of the financial statements by the external auditors. Pooled panel regression was employed for the data analysis based on the Global Reporting Initiatives index of environmental accounting practices.

The companies selected for the study included:

- Cadbury Nigeria Plc,
- Flour Mills of Nigeria,
- Guinness Nigeria Plc,
- International Breweries,
- Nascon Allied,
- Nestle Nigeria Plc,
- Nigeria Breweries,
- Nigeria Northern Flour Mill,
- PZ Cussons,
- Unilever Nigeria Plc,
- Vitafoam Nigeria Plc,
- Berger Paints Plc,
- Beta Glass Plc,
- Chemical and Allied Products Plc
- Lafarge Africa Plc,
- Neimeth International Pharmaceuticals Plc

The selection was based on the availability of the identified and used variable in the financial statements of the companies who have shown the extent of environmental compliance practices in line with the Global Reporting Initiative (GRI-41) used for the study.

Model Specifications

$Y_{it} = \alpha_0 + \beta X_{it} + \mu_{it}$

Y = Dependent Variable: Economic Value Added (EVA)

X = Independent variable

Where: $X = x_1, x_2, x_3, x_4$

Functional Relationship

EVA = *f*(WMDI, EPDI, SMDI, SRDI, CRLDI)

Model

$EVA_{it} = \alpha_0 + \beta_1 WMDI_{it} + \beta_2 EPDI_{it} + \beta_3 SMDI_{it} + \beta_4 SRDI_{it} + \beta_5 CRLDI_{it} + \mu_{it}$

Where

EVA = Economic Value added

WMDI = Water management disclosure index

EPDI = Environmental protection disclosure index

MDI = Safety measures disclosure index

SRDI = Social responsibility disclosure index

CRLDI = Compliance with regulations and laws disclosure index

α = Constant, β Coefficients of the model, t = Time-series and i =Cross-sectional

Variables	Abbrev	Measures	Source
Dependent Variable Economic Value Added	EVA	NOPAY – (Capital invested by x weighted average cost of capital). Where NOPAT = Net operating profit after tax.	Hussain *et al.*, (2018)
Independent Variable			
Water management disclosure index	WMDI	e3 = Water usage and treatment = measured kilo liters per tonne (K1/t).	Iliemena (2020)
Environmental protection disclosure index	EPDI	Measured as a dummy variable, "1" is assigned if the annual financial statement contains evidence of environmental protections regulation compliance; otherwise, "0"	Yuliarini, Othman & Ismail (2017)
Safety measures disclosure index	MDI	Measured as a dummy variable, "1" is assigned if the annual financial statement contains evidence of health and safety information; otherwise, "0"	Yuliarini, Othman & Ismail (2017

Variables	Abbrev	Measures	Source
Social responsibility disclosure index	SRDI	Measured as a dummy variable, "1" is assigned if the annual financial statement contains evidence of social responsibility; otherwise, "0"	Williams (2015)
Compliance with regulations and laws disclosure index	CRLDI	Measured as a dummy variable, "1" is assigned if the annual financial statement contains evidence of compliance with environmental regulations and laws	Iliemena (2020)

Table 1: Measurements of Variables
Source: Ernst & Young GRI Index (2022)

4. Data Analysis, Results, and Discussions

4.1. Regression Analysis

Variables	Fixed Effects GLS Regression with Driscoll-Kraay Standard Errors $EVAit = \alpha 0 + \beta 1WMDIit + \beta 2EPDIit + \beta 3SMDIit + \beta 4SRDIit + \beta 5CRLDIit + \mu it$			
	Coeff.	Std. Err	T-Stat	Prob.
Constant	7.482**	3.638	2.06	0.05
WMDI	-0.247**	0.048	-5.07	0.00
EPDI	0.007	0,073	0.10	0.92
SMDI	-0.033**	0.015	-2.22	0.04
SRDLI	0.304	0.333	-0.91	0.37
CRLDI	0.024	0.012	1.92	0.09
Observations	225	225	225	225
Adjusted R^2	0.164			
F-Statistics	$F_{(7,14)}$ = 16.44 (0.00)			
Hausman Test	$Chi^2_{(7)}$ = 21.00 (0.00)			
Testparm	$F_{(14,119)}$ = 6.78 (0.00)			
Heteroskedasticity Test	$Chi^2_{(10)}$ = 81.61 (0.00)			
Serial Correlation Test	$F_{(1,9)}$ = 1.92 (0.199)			
Cross-Sect Dep. Test	-2.290 (0.022)			

Table 2: Regression Results: Effect of Environmental Accounting Practices on Stakeholders' Value in Selected Listed Companies in Nigeria
*Source: Researcher (2022): Note: WMDI = Water Management Disclosure Index, EPDI = Environmental Protection Disclosure Index, SMDI = Safety Measures Disclosure Index, SRDI= Social Responsibility Disclosure Index, CRLDI = Compliance to Regulations and Laws Disclosure Index. ** = 0.05 Level of Significance*

4.1. Post Estimations Test Interpretation

4.1.1. Hausman Test

The best appropriate method of panel regression analysis has been chosen to evaluate the effect of environmental accounting practices on stakeholders' value in selected listed companies in Nigeria. Between the fixed effect model and the random effect model, t usman test was performed to determine which model was more appropriate for the investigation. The p-value was less than 0.05 as a consequence of the study, indicating that the fixed effect model is acceptable and consistent for the analysis. As a result, the analysis rejects the null hypothesis due to the presence of unsystematic differences in the model coefficients.

In addition, the regression of the Hausman test confirmed that fixed effect models were appropriate. The results of the Hausman test and testparm for fixed effect models are used to corroborate this, as they aid in determining the best model between fixed effects and pooled ordinary least square regression. The testparm results, which have a p-value of 0.00, are less than the 5% significance level, supporting the use of fixed effects in model estimation.

4.1.2. Hetroskedasticity Test

It was tested for heteroskedasticity and serial correlation to determine the model's robustness. The heteroskedasticity test is used to determine whether or not the fluctuations in the model's residuals are constant over time; the null hypothesis indicates that the model's standard errors are constant over time. The heteroskedasticity test was performed using the Breusch-Pagan/Cook-Weisberg test. The result of heteroskedasticity with a p-value of 0.00 is less than the 5% level of significance chosen for the study. It indicates the presence of heteroskedasticity. That is, the model's residuals are not constant over time, indicating that the model is heteroscedastic.

4.1.3. Serial Correlation Test

A serial correlation test was also used to see if there was any autocorrelation between the residuals and the model coefficients. The autocorrelation problem causes the standard errors of the coefficients to be smaller than their true value and the coefficient of determination (R-squared) to be greater than usual, according to Baltagi (2021). There is no serial correlation, according to the null hypothesis of the test (no first order of autocorrelation). The test was performed using the Wooldridge test. The result with a p-value of 0.199, which is greater than the significance limit of 5%, indicates that the model has no serial correlation problem.

Finally, the effect of environmental accounting practices on the stakeholders' value of information asymmetry in selected listed companies in Nigeria was estimated using Fixed-Effects GLS Regression with the cluster.

4.2. Regression Equation Results

$$SV_{it} = \beta_0 + \beta_1 WMDI_{it} + \beta_2 NCT_{it} + \beta_3 RET_{it} + \beta_4 EPDI_{it} + \beta_5 SMDI_{it} + \beta_6 SRDLI_t + \beta_7 CRLDI_{it} + \mu_{it}$$

$$SV_{it} = 7.482 - 0.247WMDI_{it} + 0.020NCT_{it} + 0.057RET_{it} + 0.007EPDI_{it} - 0.033SMDI_{it} + 0.304SRDLI_t + 0.024CRLDI_{it} + \mu_{it}$$

(Restated).

Table 2 examines the effect of environmental accounting practices on stakeholders' value of selected listed companies in Nigeria. The influence of environmental accounting practices on stakeholders' value of selected listed companies in Nigeria was investigated. Environmental accounting practices, as evaluated by the water management disclosure index (WMDI), exhibited a negative and significant effect on stakeholders' value ($\beta1$ = -0.247, p = 0.00), according to the regression estimations. As a result, a 1% increase in risk committee composition will result in a 0.247 percent reduction in stakeholders' value. Environmental protection disclosure index had a positive insignificant (β_2 = 0.007, p-value = 0.92), while safety measures disclosure index had negative significant ($\beta3$ = -0.033, p-value = 0.04), and social responsibility disclosure index had a positive insignificant ($\beta4$ = 0.304; p-value = 0.37) and compliance to regulations and laws revealed a positive insignificant.

In addition, the report implied that the environmental protection disclosure index (EPDI), social responsibility disclosure index (SRDLI), and compliance with regulations and laws boost the stakeholders' value of selected listed companies in Nigeria. Furthermore, according to the findings of the study, two variables of the water management disclosure index (WMDI and safety measures disclosure index were associated with stakeholders' value, whereas other variables were unrelated to the stakeholders' value of selected listed companies in Nigeria.

In consideration of the Adj.R^2 of the model, the estimation revealed in the study was 16.4 percent, indicating that 16.4 percent of the variation in stakeholders' value of selected listed companies in Nigeria can be attributed to all of our independent variables combined (environmental accounting practices), while the remaining 83.6 percent is due to other factors not included in this model. The null hypothesis for the model revealed that environmental accounting practices had no significant effect on stakeholders' value of selected listed companies in Nigeria. It is rejected, as the probability of F-statistics of 0.00 is less than the study's chosen significant level of 5%. Hence, the study found environmental accounting practices to have a significant effect on stakeholders' value.

5. Discussion of Findings

The Model of the study found a random effect GLS regression with Driscoll-Kraay standard errors to be an appropriate and consistent method of data analysis when compared fixed effect model, and pooled ordinary least square regression analysis is analyzed by Hausman test and Testparm. The study showed that the water management disclosure index (WMDI) and safety measures disclosure index (SMDI) revealed a negative effect on stakeholders' value of selected listed companies in Nigeria, while the water management disclosure index (WMDI) was significant at 5%. However, the joint estimation of the F-statistics revealed that the combination of the explanatory variables of the model revealed that environmental accounting practices had a significant positive effect on stakeholders' value. Adegbie, Ekpeni, and Owolabi (2021) reported a positive effect, Falope, Offor, and Ofurum (2019) revealed a positive impact, Lee, Lee, and Cho (2019) documented a positive effect, while Ahmad, Tawfiq, Ayman, and Sakher (2019), Aziz (2019 also reported a positive effect of environmental accounting practice.

On the contrary, some other results found inconsistent results. For example, the studies of Obiora, Ven, Onuoha, and Chioma (2022) reported a negative effect, while the study carried out in China by Zhao, Meng, He, and Gu also reported a negative effect.

6. Conclusion, Recommendations, and Contribution to Future Studies

6.1. Conclusion

Stakeholders' value has no doubt been one of the controversial issues in recent times, and one of the contentious issues has been the appropriate measure of stakeholder value. A few researchers noted that since stakeholder value is an extended economic value accruable to the shareholders that include other stakeholders, it becomes necessary to consider a more value and economic value creation model. Consequently, in addressing the problem of stakeholders' problem, the study employed a model that could measure the economic value added to all stakeholders, including the stakeholders and other stakeholders. Hence, economic value added was adopted from previous studies as a surrogate to measure stakeholders' value, while environmental accounting practice was measured using the water management disclosure index, environmental protection disclosure index, safety measures disclosure index, social responsibility disclosure index, and compliance to regulations and laws disclosure index.

The pooled regression analysis revealed mixed results:

- The water management disclosure index revealed a negative but significant effect,
- The environmental protection disclosure index showed a positive effect,
- The safety measures disclosure index revealed a negative,
- The social responsibility disclosure index had a positive effect,
- Compliance with regulations and laws had a positive but insignificant effect

However, the joint regression result of the F-statistics using a combination of all the explanatory variables of the study showed that stakeholder value was positively effected. The study, therefore, concluded that environmental accounting practice had a significant positive effect on stakeholders' value of selected listed companies in Nigeria.

6.2. Recommendations

The social responsibility disclosure index and compliance to regulations and laws disclosure index had an insignificant effect, suggesting that the level of environmental protection and compliance to environmental regulators were weak and inadequate. Based on the foregoing, the study recommended that:

- Environmental regulatory agencies should intensify measures to ensure strict compliance and
- More stringent sanctions should be made for defaulters

Managers of the companies should embrace effective and prompt environmental accounting practice since it enhances legitimacy, recognition, corporate performance, and ultimately, the stakeholders' values.

6.3. Contribution to Future Studies

In the contemporary literature, environmental accounting practice has been a well-researched issue but not the effect on Stakeholders' value. The study adds new insight to the existing literature in this regard. Despite the innovations from the results, some limitations were encountered, as the study only considered only 15 listed companies, and not all environmental disclosure indexes were considered. Other future studies could consider other determinants of environmental accounting practice measures.

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