Journal of Economics, Finance and Management Studies

ISSN (print): 2644-0490, ISSN (online): 2644-0504

Volume 08 Issue 09 September 2025

Article DOI: 10.47191/jefms/v8-i9-33, Impact Factor: 8.317

Page No: 6191-6195

Integrating Internal and External Environmental Accounting Disclosures: A Pathway to Enhanced Corporate Performance in Nigeria's Oil And Gas Sector

Adedayo Jamiu AFOLABI[1], Wasiu BELLO[2], Tajudeen A. ODETAYO[3], Ayobami Nelson ADEPOJU[4], Oluwafemi A. IGBAROOLA[5], Khafilat T. OLAYIWOLA[6]

[1,2,4,5]Department of Accounting, University of Ilesa ORCID: 0009-0003-0400-2516[1], ORCID: 0009-0008-1732-8818[2], ORCID: 0009-0009-9758-6274[4], ORCID: 0009-0009-1449-309X[5]

[3]Department of Accounting, University of Ilesa, Osun State, Nigeria ORCID: 0009-0001-1239-9384[3]

[6]Department of Accounting and Finance, Ajayi Crowther University, Oyo, Oyo State

ABSTRACT: This study investigated the integrated effects of internal and external environmental accounting disclosures (IEEAD) on the corporate performance of listed oil and gas companies in Nigeria. Utilizing panel data from 2015 to 2024 and complemented by a pooled regression analysis, the study evaluated how various disclosure components impacted corporate performance, measured through Return on Assets (ROA), Return on Equity (ROE), and Profitability (PROF). Results revealed that internal environmental accounting disclosures, particularly waste management practices, significantly enhance profitability and operational efficiency. External environmental accounting disclosures yielded mixed outcomes, with compliance and carbon emission disclosures showing minimal statistical significance. However, the interaction between internal and external disclosures demonstrated a compounded positive effect on overall corporate performance. These findings underscored the strategic importance of harmonized environmental accounting disclosure practices in promoting sustainability and financial success. The study recommended mandatory, standardized reporting frameworks for Nigeria's oil and gas sector.

KEYWORDS: Environmental Accounting, Internal Disclosure, External Disclosure, Corporate Performance, Nigeria, Oil and Gas

1. INTRODUCTION

As global sustainability standards tighten, firms in environmentally sensitive industries such as oil and gas face increasing pressure to improve environmental accountability. In Nigeria, environmental degradation stemming from oil exploration has intensified public and regulatory scrutiny. Consequently, corporate environmental accounting disclosures (EAD) have emerged as vital mechanisms for demonstrating transparency and sustainability commitments.

Environmental concerns have become deeply integrated into the risk management and value proposition frameworks of corporations. With heightened interest from investors, regulators, and civil society, the importance of transparent environmental accounting has escalated. In addition to aligning with sustainable development goals, firms are increasingly expected to justify their operations in terms of environmental stewardship.

EADs are broadly categorized into internal disclosures, which focus on resource management and operational controls, and external disclosures, which target stakeholder engagement and regulatory compliance. While internal disclosures are geared toward improving operational performance through resource efficiency, external disclosures emphasize communication with stakeholders such as investors, regulators, and the public.

Although both forms are widely recognized, limited empirical research explores their joint impact on firm performance. This paper addresses this gap by examining how integrated environmental disclosure strategies influence financial outcomes for listed Nigerian oil and gas firms.

2.0 LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Environmental Accounting Disclosure and Corporate Performance

Environmental accounting disclosure (EAD) represents a subset of sustainability reporting that reflects the extent to which firms acknowledge, measure, and communicate their environmental impacts. As stakeholders become increasingly environmentally conscious, the strategic value of EAD in enhancing firm legitimacy, mitigating risk, and signaling long-term viability is gaining prominence. Several scholars have investigated this evolving phenomenon across various contexts, with an emphasis on how disclosure practices relate to firms' financial performance and market value.

2.2 In Nigeria, Adebayo and Oyewole (2022) conducted an empirical investigation into the nexus between environmental accounting disclosure and market value of listed non-financial firms. Their study found a significant positive relationship, suggesting that environmental transparency can serve as a value-enhancing mechanism in emerging economies where environmental risks are substantial. The researchers employed a panel data methodology using firm-level annual reports, concluding that firms with higher levels of disclosure tend to be more attractive to investors due to perceived lower long-term environmental risk exposure.

Similarly, Oladejo, Afolabi, Bello, and Adeleke (2025) examined the impact of environmental accounting disclosure on corporate performance within Nigeria's high-impact sectors, notably the oil and gas industry. Using a longitudinal panel regression model, they concluded that both internal (e.g., pollution control expenditures) and external (e.g., community development and sustainability reports) disclosures positively influenced return on assets and profit margins. Their findings aligned with legitimacy theory, suggesting that Nigerian firms seek social license to operate by disclosing environmentally responsible activities.

Internationally, Clarkson, Li, Richardson, and Vasvari (2008) provided seminal insight into the relationship between environmental performance and disclosure quality. Using Global Reporting Initiative (GRI) standards, they observed that firms with superior environmental performance were more likely to provide extensive disclosures. This lends credence to the "voluntary disclosure theory," which posits that firms disclose positive environmental practices to differentiate themselves in capital markets and attract sustainability-conscious investors.

Further validating this perspective, Al-Tuwaijri, Christensen, and Hughes (2004) revealed a positive association between environmental disclosure, actual environmental performance, and economic performance among U.S. firms. Their research employed structural equation modeling, which reinforced the interrelated nature of these constructs. This study has had far-reaching influence on empirical studies in emerging economies, serving as a benchmark for methodological rigor and conceptual clarity.

In the European context, Michelon, Pilonato, and Ricceri (2015) examined the determinants and outcomes of environmental disclosures across firms listed in the Eurozone. They found that disclosure quality was positively related to board diversity and firm size, and that firms with strong environmental disclosures outperformed peers in market valuation metrics. Their study emphasized the role of corporate governance in shaping disclosure behaviors and market reception.

2.3 Relationship Between Environmental Accounting Disclosure and Corporate Performance

The connection between EAD and corporate performance is theoretically underpinned by stakeholder theory and the resource-based view. On one hand, stakeholder theory posits that proactive environmental disclosure fosters stronger relationships with key stakeholders—government regulators, consumers, and investors—thereby enhancing firm reputation and reducing costs associated with regulatory non-compliance or reputational damage (Freeman, 1984). On the other hand, from the resource-based view, firms that integrate sustainability into their operations develop unique capabilities that can result in long-term financial advantages (Barney, 1991).

Empirical studies from Nigeria support this position. For instance, Oba, Ibikunle, and Ayoola (2023) examined the relationship between sustainability disclosures (including environmental data) and return on equity in manufacturing firms. Their regression analysis revealed a statistically significant positive association, particularly in firms with ISO14001 certification, indicating that structured environmental practices yield quantifiable financial benefits.

Conversely, some researchers argue that EAD may impose short-term financial burdens. For example, Iredele and Adebayo (2021) found a weak negative correlation between disclosure costs and net profit margins in SMEs. They attributed this to the high cost of compliance, inadequate internal reporting systems, and a lack of skilled sustainability professionals in smaller firms. Nonetheless, the overall consensus tilts toward a long-term positive effect of environmental disclosure on financial performance, especially when such disclosures are authentic, third-party verified, and integrated into core business strategies. This suggests that firms should not view EAD merely as a regulatory burden, but as a competitive strategy for sustainable value creation.

2.4 Environmental Accounting Disclosure and Market Valuation

Market valuation reflects investors' perception of a firm's future earnings potential and risk exposure. Several studies have explored how environmental disclosure influences stock prices, earnings per share (EPS), and price-to-book ratios. According to legitimacy theory, firms that are more transparent about their environmental responsibilities are more likely to gain investor trust and reduce perceived risk, thus increasing their market value (Suchman, 1995).

Adebayo and Oyewole (2022) found that environmental disclosure significantly enhances the market value of listed non-financial firms in Nigeria. They observed that stock prices of firms with environmental certifications and GRI-compliant reports performed better during economic downturns, suggesting that investors reward transparency and perceived risk mitigation.

Similarly, Okonkwo and Ijeoma (2020) conducted a study on the Nigerian Stock Exchange (NSE) to analyze the impact of sustainability reporting on investor response. Using event study methodology, they found that companies that released detailed environmental reports experienced a positive cumulative abnormal return around the disclosure date, especially in the manufacturing and consumer goods sectors.

Globally, studies by Dhaliwal, Li, Tsang, and Yang (2011) confirmed that firms engaging in voluntary disclosure of environmental risks and remediation strategies experienced reduced cost of equity capital. This finding underscores the economic benefit of transparency, especially in jurisdictions with weak regulatory enforcement where voluntary disclosure serves as a strategic signal.

Furthermore, Li, Gong, and Wang (2021) explored the mediating role of green innovation in the relationship between environmental reporting and market value in Chinese listed firms. Their study highlighted that disclosures that are coupled with verifiable green investments (e.g., renewable energy projects, waste recycling) had a stronger positive impact on firm valuation than generic disclosures.

2.5 Measurement and Disclosure Frameworks

An important dimension of the literature involves the measurement frameworks used to assess environmental disclosure. These range from content analysis of annual reports to scoring systems based on GRI, Carbon Disclosure Project (CDP), and Nigeria's Financial Reporting Council (FRCN) guidelines. Scholars such as Idemudia and Osayande (2022) emphasized the need for a harmonized reporting framework in Nigeria, arguing that inconsistencies in disclosure formats reduce comparability and investor confidence.

In this light, the adoption of International Financial Reporting Standards (IFRS) and the recent alignment of the Nigerian Stock Exchange's sustainability disclosure guidelines with GRI and IFRS S2 have been seen as progressive. However, implementation remains a challenge due to limited technical capacity among firms, especially outside the oil and gas and financial sectors.

2.6 Gaps and Future Directions

Despite the growing literature, several gaps remained. First, most Nigerian studies focus on large firms in the oil, gas, and manufacturing sectors, leaving out SMEs and service-based sectors that also contribute to environmental degradation. Second, few studies have examined the moderating effects of corporate governance mechanisms, such as board independence and audit committee expertise, on the EAD–performance nexus. Third, while many studies have used accounting-based metrics (e.g., ROA, ROE), fewer have explored the psychological and behavioral aspects of investor reactions to EAD.

Therefore, future studies should consider industry-specific environmental issues, longitudinal analyses across multiple economic cycles, and mixed-methods approaches that combine quantitative performance metrics with qualitative insights from management and stakeholders. Additionally, exploring the role of digital platforms and fintech tools in enhancing environmental data collection and disclosure could present new frontiers.

3. METHODOLOGY

3.1 Data and Sample

The study employs a longitudinal panel design using secondary data from 10 publicly listed oil and gas companies in Nigeria, covering a ten-year period from 2015 to 2024. Data were extracted from audited financial statements, annual sustainability reports, and corporate social responsibility disclosures.

3.2 Variables and Model

Dependent variables include Return on Assets (ROA), Return on Equity (ROE), and Profitability (PROF). Independent variables consist of the Internal Environmental Disclosure Index (INTED) and External Environmental Disclosure Index (EXTED). The interaction term (INTED × EXTED) is introduced to assess compounded effects.

Control variables include firm size (measured by total assets) and financial leverage (measured by debt-to-equity ratio).

Model Specification:

$PERF_{it} = \beta 0 + \beta 1 INTED_{it} + \beta 2 EXTED_{it} + \beta 3(INTED \times EXTED)_{it} + \beta 4 SIZ_{it} + \beta 5 LEV_{it} + \varepsilon_{it}$

Where:

PERF: Corporate Performance
INTED: Internal Environmental Disclosure
EXTED: External Environmental Disclosure
SIZ: Size
LEV: Leverage
In addition, a pooled regression analysis was employed to disaggregate external disclosure effects into specific variables: carbon emissions disclosure (CBE), waste management disclosure (WAS), compliance disclosure (COMP), and product and service stewardship disclosure (PSS).

4. RESULTS AND DISCUSSION

4.1 Panel Regression Findings

The panel regression results revealed that INTED had a statistically significant positive effect on ROA ($p < 0.05$), suggesting that firms with robust internal environmental systems exhibit enhanced operational efficiency. EXTED had a significant positive impact on ROE ($p < 0.01$), implying that external transparency fosters investor confidence and access to capital.
The interaction term (INTED × EXTED) was also significant ($p < 0.05$), affirming that firms integrating both disclosure types gain compounded performance benefits. These results reinforce the strategic value of harmonized disclosure frameworks.

4.2 Pooled Regression Findings

Waste Management (WAS) emerged as the most significant factor influencing profitability, with a coefficient of 0.2989 ($p = 0.0008$). This highlights the operational and reputational benefits of managing and transparently reporting waste management practices. Other external disclosure components—carbon emissions (CBE), compliance (COMP), and product/service stewardship (PSS)—showed no statistically significant effects on profitability, indicating either low materiality or ineffective implementation.

Table 1: Pooled Regression Summary

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.2359	0.1404	-1.6806	0.0970
CBE	0.0016	0.0055	0.2939	0.7696
WAS	0.2989	0.0851	3.5107	0.0008
COMP	0.0736	0.1006	0.7319	0.4665
PSS	-0.0020	0.0256	-0.0788	0.9374

Model Summary: R-squared = 0.6550 | Adjusted R-squared = 0.5099 | Prob. (F-statistic) = 0.0123

4.3 Discussion

The findings confirm that internal environmental practices such as waste management and resource optimization are critical to profitability. These practices reduce waste, increase efficiency, and result in direct cost savings. In contrast, external disclosures without corresponding internal action may fail to yield financial value.
The significant interaction term supports the premise that integrated environmental strategies enhance overall performance by marrying operational gains with external legitimacy. These results align with both Legitimacy and Stakeholder Theories and provide empirical backing for regulatory interventions encouraging comprehensive disclosure practices.
Furthermore, the study highlights the limitations of fragmented or tokenistic disclosures, as seen in the insignificant impact of some external disclosure categories. Companies should thus view disclosure as a strategic tool rather than a compliance obligation.

5. CONCLUSION AND RECOMMENDATIONS

This study concludes that integrated internal and external environmental accounting disclosures significantly enhance corporate performance in Nigeria's oil and gas sector. While internal disclosures such as waste management have a direct impact on operational and financial metrics, external disclosures strengthen market perception and stakeholder trust. Importantly, the synergistic application of both strategies yields superior performance outcomes.

Policy Recommendations:

Regulatory agencies such as the Financial Reporting Council of Nigeria (FRCN) should mandate comprehensive environmental disclosure standards. - Oil and gas firms should adopt global frameworks like the Global Reporting Initiative (GRI) for both internal and external disclosures. - Capacity-building programs should be introduced to train firms on integrating environmental accounting into strategic planning. - Investors should factor in environmental disclosure scores during investment appraisals to promote accountability.

Suggestions for Future Research: Future studies could explore sectoral comparisons or conduct longitudinal case studies to examine causality. Also, research could extend to social and governance disclosures for a broader ESG performance assessment.

REFERENCES

1) Adebayo, O., and Oyewole, O. A. (2022). Environmental accounting disclosure and market value of listed non-financial firms in Nigeria. International Journal of Management, Accounting and Economics, 9(7), 512–529.
2) Al-Tuwaijri, S. A., Christensen, T. E., and Hughes, K. E. (2004). The relations among environmental disclosure, environmental performance, and economic performance: A simultaneous equations approach. Accounting, Organizations and Society, 29 (2004) issues 5–6, 447–471.
3) Barney, J. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99–120.
4) Clarkson, P. M., Li, Y., Richardson, G. D., and Vasvari, F. P. (2008). Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. Accounting, Organizations and Society, 33(4–5), 303–327.
5) Dhaliwal, D. S., Li, O. Z., Tsang, A., and Yang, Y. G. (2011). Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting. The Accounting Review, 86(1), 59–100.
6) Freeman, R. E. (1984). Strategic management: A stakeholder approach. Boston, Business and economic. MA: Pitman, Boston.
7) Idemudia, U., and Osayande, I. (2022). Environmental disclosure practices and performance of listed companies in Nigeria: A content analysis. Nigerian Journal of Accounting Research, 8(1), 45–62.
8) Iredele, A. A., and Adebayo, A. K. (2021). Cost of environmental disclosure and profitability of SMEs in Nigeria. Journal of Sustainable Accounting, 6(2), 80–95.
9) Li, D., Gong, M., and Wang, H. (2021). Green innovation, environmental disclosure, and market value: Evidence from China. Journal of Cleaner Production, 320, 128837.
10) Michelon, G., Pilonato, S., and Ricceri, F. (2015). Corporate Social Responsibility reporting practices and the quality of disclosure: An empirical analysis. Critical Perspectives on Accounting, 33, 59–78.
11) Oba, A. M., Ibikunle, F., and Ayoola, O. (2023). Sustainability disclosures and firm profitability in Nigeria. Journal of Accounting and Sustainability Studies, 4(1), 22–37.
12) Okonkwo, R. I., and Ijeoma, N. B. (2020). The effect of sustainability reporting on share price of quoted firms in Nigeria. International Journal of Accounting and Finance, 9(2), 141–154.
13) Oladejo, M., Afolabi, A., Bello, R., and Adeleke, A. (2025). Environmental accounting disclosure and corporate performance in Nigeria's oil and gas sector: A panel data analysis. Journal of Energy Economics and Policy, 12(1), 33–49.
14) Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. Academy of Management Review, 20(3), 571–610.