

**ANUK COLLEGE OF
PRIVATE SECTOR
Accounting Journal**

VOL. 2 NO. 3 OCTOBER, 2025

**A Publication of College of Private Sector
Accounting
ANAN University Kwall, Plateau State, Nigeria.**

Copyright © College of Private Sector ANAN University Kwall, Plateau State, Nigeria.

Published October, 2025.

Web Address: <https://www.anukpsaj.com>, Email: anukpsaj@gmail.com

All right reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of the copyright owner,

Printed by:
MUSSAB Printers,
NB, 9 Muri road by gwari road, Kaduna State, Nigeria.
Phone contact: 07038776658,
Email: meetsuleiman009@gmail.com

Structure of Manuscript

Manuscripts must be typed on A size paper with 12 font size (Times New Roman), not more than 15 pages, double-spaced, and in English. The file name should include the corresponding author's name and a keyword from the title.

Sequence of Manuscript

- I. Title page
- II. Abstract (150-250 words)
- III. Keywords (3-5)
- IV. Introduction
- V. Literature Review
- VI. Methodology
- VII. Results and Discussion
- VIII. Conclusion and Recommendations
- IX. References (APA 7th Edition)
- X. Appendices (if necessary)
- XI. Author Biographies (optional)

Plagiarism Policy

ANUK is committed to maintaining high standards through an indept peer-review process with sound ethical policies. Any infringements of professional ethical codes, such as plagiarism; including self-plagiarism, fraudulent use of data, are seriously frowned at by the journal with zero tolerance.

ANUK implements the Code of Conduct of the Committee on Publication Ethics (COPE), and uses the COPE Flowcharts for Resolving cases of suspected plagiarism or any publication misconduct.

In order to avoid plagiarism cases with the ANUK, the following guidelines must be strictly adhered to by authors:

Authors should ensure that they have written entirely original works, and if authors have used the work and/or words of others that this has been appropriately cited or quoted.

An author should not, in general, publish manuscripts describing essentially the same research in more than one journal or primary publication. Submitting the same manuscript to more than one journal concurrently constitutes unethical publishing behavior and is unacceptable.

Proper acknowledgment of the work of others must always be adhered to. Authors should cite publications that have been influential in determining the nature of the reported work.

Editorial Team

Editor-in-Chief :

Prof. Musa Adeiza Farouk

Dean, College of Private Sector Accounting
ANAN University Kwall, Plateau State.

Associate Editor:

Dr. Saidu Halidu

Department of Financial Reporting,
ANAN University Kwall, Plateau State.

Managing Editor :

Dr. Benjamin David Uyagu

Department of Auditing and Forensic Accounting,
ANAN University Kwall, Plateau State.

Members Editorial Board

Prof. Joseph Femi Adebisi

DVC ANAN University Kwall, Plateau State.

Prof. Tamunonimim Ngereboa

Dean, Public Sector Accounting,
ANAN University Kwall, Plateau State.

Prof Kabir Tahir Hamid,

Department of Accounting,
Bayero University, Kano, Kano State.

Prof. Ekoja B. Ekoja,

Department of Accounting,
University of Jos.

Prof. Clifford Ofurum,

Department of Accounting,
University of Port Harcourt, Rivers State.

Prof. Ahmad Bello Dogarawa,

Department of Accounting,
Ahmadu Bello University Zaria.

Prof. Muhammad Junaidu Kurawa,

Department of Accounting,
Bayero University Kano, Kano State.

Prof. Muhammad Habibu Sabari,

Department of Accounting,
Ahmadu Bello University, Zaria.

Prof. Hassan Ibrahim,

Department of Accounting,
IBB University, Lapai, Niger State.

Prof. Tochukwu Okafor,

Department of Accounting,
University of Nigeria, Nsukka.

Prof. Muhammad Aminu Isa,

Department of Accounting,
Bayero University, Kano, Kano State.

Prof. Ahmadu Bello,

Department of Accounting,
Ahmadu Bello University, Zaria.

Prof. Musa Yelwa Abubakar,

Department of Accounting,
Usmanu Danfodiyo University, Sokoto State.

Prof. Salisu Abubakar,

Department of Accounting,
Ahmadu Bello University Zaria, Kaduna State.

Prof. Isaq Alhaji Samaila,

Department of Accounting,
Bayero University, Kano State.

Prof. J.J. Adefila,

Department of Accounting,
University of Maidugu, Borno State.

Prof. Chinedu Innocent Enekwe,

Department of Financial Management,
ANAN University Kwall, Plateau State.

Dr. Dang Yohanna Dagwom,

Department of Public Sector Accounting,
ANAN University Kwall, Plateau State.

Dr. Abdulrahman Abubakar,
Department of Accounting,
Ahmadu Bello University Zaria.

Dr. Aisha Nuhu Muhammad,
Department of Accounting,
Ahmadu Bello University Zaria.

Dr. Abubakar Ahmad,
School of Business and Entrepreneurship,
Amerian University of Nigeria, Yola.

Dr. Suleiman Salami,
Department of Accounting,
ABU Business School,
Ahmadu Bello University Zaria.

Prof. Sunday Mlanga,
Director Academic Planning,
ANAN University Kwall Plateau State

Dr. Saheed Adebawale Nurein,
School of Business and Entrepreneurship,
Amerian University of Nigeria, Yola.

Prof. Isaq Alhaji Samaila,
Department of Accounting,
Bayero University, Kano.

Dr. Maryam Isyaku Muhammad
Department of Accountancy,
Federal University of Technology, Yola

Dr. Latifat Muhibudeen,
Department of Accounting,
Yusuf Maitama Sule University, Kano

Advisory Board Members

Prof. Musa Inuwa Fodio,
V.C, ANAN University Kwall,
Plateau State

Prof. Kabiru Isah Dandago,
Bayero University Kano,
Kano State.

Prof. Suleiman A. S. Aruwa,
Department of Accounting,
Nasarawa State University, Keffi,
Nasarawa State.

Prof. A.M Bashir,
Usmanu Danfodiyo University Sokoto,
Sokoto State.

Prof. Muhammad Tanko,
Kaduna State University, Kaduna.

Prof. Bayero A.M Sabir,
Usmanu Danfodiyo University Sokoto,
Sokoto State.

Prof. Aliyu Sulaiman Kantudu,
Bayero University Kano, Kano State.

Prof. B.C Osisioma,
Department of Accounting,
Nnamdi Azikwe University, Akwa

Prof. M.A. Mainoma,
Department of Accounting,
Nasarawa State University, Keffi

Prof. J. C Okoye,
Department of Accounting,
Nnamdi Azikwe University, Akwa

Prof. J.O. N Ande,
Department of Accounting, University of Jos.

Prof. Shehu Usman Hassan,
Dean Faculty of Management Science,
Federal University of Kashere, Gombe State.

Editorial Secretary

Dr. Anderson Oriakpono,
Department of Capital Market And Investment,
ANAN University Kwall, Plateau State.

TABLE OF CONTENT

1. Ceos' Characteristics, Audit Quality and Earnings Management of Listed Deposit Money Banks in Nigeria	1
Saheed Babatunde, Musa Adeiza Farouk and Dagwom Yohanna Dang	
2. Performance Audit Planning Practices and Quality of Service Delivery among Public Sector Entities in Nigeria	15
Ayorinde Tobi Babatolu , Mubaraq Sanni, Olusegun Opeyemi Oni and Ponle Henry Kareem	
3. Moderating Effect of Training on The Relationship Between Forensic Accounting Practice Skills And Tax Fraud Detection in Nigeria Federal Inland Revenue Service ..	28
Dagwom Yohanna Dang, Abdullahi Ya'u and Ishaya Pius Papka	
4. Effect of Tax Administration Efficiency on Tax Compliance among Small and Medium Scale Enterprises in North Central of Nigeria	40
Abubakar Lamino Muhammad	
5. Effect of Cybersecurity Incident Preparedness on The Efficacy of Digital Forensic Investigations in Nigerian Financial Institutions	48
Adegbemi Titilayo Adesola, Sunday Mlanga and Ganiyu A. Mustapha	
6. Effect of Forensic Accounting Techniques on Fraud Prevention in Public Sector Financial Management in Northwestern Nigeria	57
Attahiru Ibrahim Alkali, Zainab Attahiru Alkali, Ojeifo Sidney Imevbore and Okai Ogah Esther	
7. Effect of Information Communication Technology on Liquidity of Banks in Nigeria ...	67
Chimin, Stanley Iorwundu	
8. Impact of Ceos' Characteristics on Earnings Management of Listed Deposit Money Banks in Nigeria; Moderated by Audit Quality	75
Saheed Babatunde, Farouk Adeiza Musa and Dagwom Yohanna Dang	
9. Impact of Forensic Accounting Strategies on Financial Performance Trends of Quoted Oil And Gas Firms in Nigeria	87
Inebaraton-Preye Pere-Ere Petrice, Musa Adeiza Farouk and Buba Audu	
10. Moderating Effect of Risk Committee Financial Expertise on The Relationship Between Enterprise Risk Management and Value of Listed Deposit Money Banks in Nigeria	95
Maria D Barau, Abdullahi Yau, Ganiyu A. Mustapha and Musa Adeiza Farouk	
11. Effect of TETFUND Intervention on Research and Development in Nigerian Tertiary Institutions .	104
Ihemelandu Constance Obiageri, Joseph Femi Adebisi And Musa Adeiza Farouk	
12. Effect of Artificial Intelligence (AI) Tools on Accounting Research Effectiveness Among Postgraduate Students In Nigerian Universities	114
Okocha Olisa	
13. Effect of Firm Characteristics on Environmental Disclosure by Listed Oil and Gas Firms in Nigeria	123
Ojeifo Sidney Imevbore	
14. Compliance Audit And Accountability of Public Sector Entities in Nigeria	134
Muhammad Mustapha Abdulfatai, Mubaraq Sanni And Olusegun Opeyemi Oni	
15. Moderating Effect of Firm Size on The Relationship Between Corporate Social Responsibility Disclosure And Financial Reporting Quality of Listed Manufacturing Firms in Nigeria	150
Omogo Chinyere Afor, Enekwe Chinedu Innocent And Musa Adeiza Farouk	
16. Effect of Forensic Accounting Techniques on Fraud Detection of Listed Commercial Banks in Nigeria	157
Otun Isiaka Ajibola And Sunday Mlanga	

TABLE OF CONTENT

17. Moderating Effect of Asset Tangibility on The Relationship Between Capital Structure and Financial Performance of Multinational Companies in Nigeria	165
Ibrahim Abdullateef , Adebisi Joseph Femi And Roberts Emem Samson	
18. Effect of Public Financial Management Practices on Fiscal Accountability in Federal Government Agencies in Nigeria	176
Yusuf Surrayyah Aruwa, Benjamin Uyagu and Abdulateef Ibrahim	
19. Effect of Tax Audit on Revenue Generation by Federal Inland Revenue Service in Nigeria	185
Victoria Nkwoma Udo, Musa Fodio and Benjamin Uyagu	
20. Enhancing Tax Fraud Detection Through Forensic Accounting: The Moderating Effect of Training in Nigeria's Federal Inland Revenue Service	194
Dagwom Yohanna Dang, Abdullahi Ya'u and Ishaya Pius Papka	
21. Effect of Forensic Audit Adoption And Fraud Investigation Practices on The Reliability of Internal Controls in Public Sector Financial Management of Kebbi State MDAs.	205
Attahiru Ibrahim Alkali , Zainab Attahiru Alkali and Ahmed Yarima Dakingari	
22. Assessing The Relationship Between Quality Attributes and The Likelihood of Financial Statement Fraud in Nigeria's Banking Sector	214
Mutahir Olanrewaju Fasola	
23. Pension Commission's Regulations And The Effectiveness of Pension Funds Investment in Nigeria	221
Tauna Solomon, Dagwom Yohanna Dang and Salisu Abubakar	
24. Moderating Effect of Audit Committee Financial Expertise on The Relationship Between Board Attributes And Financial Reporting Quality of Listed Fintech Firms in Nigeria	232
Saleh Peter Ocho, Farouk Adeiza Musa And Dang Yohanna Dagwom	
25. Effect of Forensic Accounting Techniques on Financial Reporting Quality of MDAs In Nigeria	241
Idiagi Umarfaruk Socrates	
26. The Influence of Quality Attributes on Financial Statement Fraud in Nigerian Quoted Deposit Money Banks	249
Mutahir Olanrewaju Fasola	
27. Effect of Internal Control Mechanisms on Financial Management in Local Government Councils of Plateau State	259
Nicholas Nietlong	
28. Effect of Firm Size on Non-current Assets and Firm Value of Listed Consumer Goods Firms in Nigeria	277
Egbuta Favour Chukwu	
29. Moderating Effect of ICT Investment on The Relationship Between Firm Characteristics And Firm Value of Listed Deposit Money Banks in Sub-Saharan Africa	293
Ova, Talib Aliya	
30. Effect of Financial Metrics on Fraud Detection In Nigerian Commercial Banks	306
Ndah Eze Nwoka and Ngerebo-a Tamunonimim	
31. Effect of Forensic Accounting Techniques on Fraud Detection Among Microfinance Banks In Delta State	315
Nwakaego Maria Osuagwu	

EFFECT OF FIRM CHARACTERISTICS ON ENVIRONMENTAL DISCLOSURE BY LISTED OIL AND GAS FIRMS IN NIGERIA

OJEIFO SIDNEY IMEVBORE

Department of Auditing and Forensic Accounting, College of Private Sector Accounting
ANAN University, Nigeria

ABSTRACT

This study examined the effect of firm characteristics on environmental disclosure among listed oil and gas firms in Nigeria. Specifically, it assessed the influence of firm size, return on assets, leverage, board size, and gender diversity on the level of environmental disclosure, which served as the dependent variable. An ex post facto research design was employed, utilizing data from all seven listed oil and gas firms in Nigeria, selected through a census sampling technique. Data were analyzed using multiple regression analysis. The findings revealed that firm-specific characteristics significantly impact environmental disclosure, with the regression model explaining approximately 50.8% of the variation. Firm size exhibited a significant negative relationship with disclosure, suggesting that larger firms tend to disclose less environmental information possibly due to reputational risk or strategic discretion. Leverage, on the other hand, showed a significant positive relationship, indicating that highly leveraged firms may disclose more to meet creditor expectations. Return on assets, board size, and gender diversity did not show statistically significant effects; however, gender diversity approached significance, hinting at a potential influence on environmental transparency. Based on these findings, the study offered variable-specific recommendations. Regulatory agencies should impose stricter environmental disclosure requirements on larger firms to enhance accountability. Financial institutions and regulators are encouraged to link loan approvals or credit ratings to the quality of environmental disclosures. Companies should also integrate sustainability goals into financial performance metrics. Governance codes should reinforce effective board oversight regardless of size, and policies that promote gender-diverse boards should be adopted. Finally, standard frameworks like ISO 1431 should be made mandatory for consistent and credible reporting.

Key words: Firm Size, Return on Assets, Leverage, Board Size, And Gender Diversity

1.0 Introduction

Environmental disclosure is essential for promoting transparency, accountability, and stakeholder trust among listed oil and gas firms. It provides critical data on environmental performance, emissions, and sustainability practices, helping investors and regulators evaluate risks and regulatory compliance (Kolk et al., 2022). With increasing concerns about climate change, firms are adopting standardized frameworks such as International Organization for Standardization (ISO) 14031 the Global Reporting Initiative (GRI) and the Task Force on Climate-related Financial Disclosures (TCFD) to enhance the quality and comparability of reports (García-Sánchez et al., 2023). These disclosures guide investment decisions, as ESG factors become integral to capital allocation (Fernando & Lawrence, 2021). For oil and gas

companies, environmental reporting signals a commitment to sustainability, addresses stakeholder concerns, and strengthens community and regulatory engagement (Lozano et al., 2022). It also helps firms maintain legitimacy and achieve competitive advantage, while avoiding the reputational and legal risks associated with non-disclosure or green-washing (Jain et al., 2023). As such, environmental disclosure is both a regulatory requirement and a strategic tool for ethical corporate conduct and value protection.

In Nigeria and across Africa, environmental disclosure by listed oil and gas firms is essential for promoting transparency, regulatory compliance, and public trust. Given the industry's history of environmental degradation, particularly in the Niger Delta, stakeholders increasingly demand detailed

reports on pollution, oil spills, and remediation (Owolabi & Olayemi, 2022). Such disclosures help firms meet the requirements of national bodies like the NUPRC and international standards, enhancing legitimacy and investor confidence (Okafor et al., 2023). They also reduce information asymmetry, aiding in effective risk assessment and policy formulation (Ezejiofor et al., 2022). Community and NGO scrutiny further drives the need for transparency (Akpan & Amadi, 2021). Although compliance levels vary, growing pressure from civil society and global investors is pushing firms toward more accountable and sustainable practices. Firm characteristics play a significant role in shaping corporate decisions, financial performance, and disclosure practices. Attributes such as firm size, profitability, leverage, age, and ownership structure influence how a firm responds to market pressures and regulatory demands (Alawattage & Fernando, 2022). Larger firms often disclose more information and adopt stronger governance due to higher public scrutiny. Similarly, profitable and older firms tend to be more transparent and compliant (Ntim et al., 2021). These characteristics serve as internal determinants of strategic and operational behavior.

Firm size plays a pivotal role in promoting environmental disclosure, as larger firms are more exposed to public scrutiny and regulatory expectations. Their visibility and stakeholder engagement often necessitate more comprehensive environmental reporting to maintain legitimacy and corporate reputation (Alawattage & Fernando, 2022). Additionally, large firms typically have the financial and technical capacity to invest in structured sustainability practices and standardized disclosures. This makes firm size a critical driver of environmental transparency. As a result, size positively correlates with the extent and quality of disclosure.

Return on assets significantly contributes to a firm's ability to enhance environmental disclosure by signaling financial strength and operational efficiency. Firms with higher ROA are more likely to voluntarily report environmental activities, as they can afford the costs associated with environmental management systems and sustainability reporting (Ntim et al., 2021). Financially successful firms often pursue environmental transparency to reinforce investor confidence and corporate image. Consequently, profitability serves as both a capacity and motivation factor for disclosure. ROA thus strengthens firms' environmental responsibility profiles.

Leverage influences environmental disclosure by shaping firms' risk management strategies and stakeholder communications. Firms with higher debt levels may disclose more environmental information to mitigate creditor concerns and demonstrate long-term sustainability (Okafor et al., 2023). Transparent

reporting serves as a signaling mechanism to reassure lenders and investors about the firm's risk mitigation efforts. However, excessive leverage can constrain funds available for sustainability practices. Therefore, leverage exerts both enabling and limiting effects on environmental disclosure, depending on firm context. Board size plays a key role in enhancing environmental disclosure by improving oversight, monitoring, and strategic direction. Larger boards bring a diversity of expertise and viewpoints, which increases attention to environmental risks and sustainability issues (Owolabi & Olayemi, 2022). A well-composed board is more likely to initiate and support transparency policies aligned with environmental accountability. Additionally, board members can influence the firm's responsiveness to external environmental pressures. Hence, board size contributes positively to the breadth and depth of environmental reporting.

Gender diversity on corporate boards serves as a key moderating factor in enhancing environmental disclosure by promoting broader perspectives, ethical awareness, and stakeholder sensitivity. Female directors are often more committed to sustainability values and advocate for transparency in corporate reporting, including environmental issues (Akpan & Amadi, 2021). Their presence fosters inclusive governance practices that prioritize long-term ecological concerns. As a result, gender-diverse boards tend to influence the firm's commitment to environmental responsibility and improved disclosure quality. Thus, gender diversity enhances the relationship between governance and environmental transparency.

Statement of Problem

Despite growing global and national interest in sustainability, environmental disclosure practices among listed oil and gas firms in Nigeria remain inconsistent and often insufficient. This is alarming given the sector's long-standing association with environmental degradation, especially in the Niger Delta. Several studies (e.g., Owolabi & Olayemi, 2022; Okafor et al., 2023) have examined the determinants of environmental disclosure, yet limited attention has been given to how firm-specific characteristics such as firm size, return on assets, leverage, board size, and gender diversity influence such disclosures in the Nigerian context. Most existing studies focus broadly on corporate social responsibility (CSR) or sustainability reporting without isolating environmental disclosure as a distinct construct (Ezejiofor et al., 2022). Furthermore, methodological gaps exist as many prior studies relied heavily on cross-sectional data and descriptive analysis, limiting the generalizability and causal inference of their findings (Akpan & Amadi, 2021). Theoretical gaps are also evident, as few studies integrate stakeholder or legitimacy theory to

explain the mechanisms through which firm characteristics impact disclosure. Variable gaps are prominent where critical factors such as gender diversity and financial performance are either underexplored or inconsistently measured (Ntim et al., 2021). Additionally, geographical gaps persist, as most empirical works cluster around a few well-known firms or oil-producing states, ignoring the diversity of listed oil and gas firms across Nigeria. Unlike previous studies that relied on self-constructed checklists, this study employed the standardized ISO 1431 environmental disclosure checklist, thereby enhancing reliability, comparability, and methodological rigour. Lastly, there is a scope gap in terms of time frame and sample coverage, as many studies use outdated data or small firm samples. Hence, a comprehensive and theory-driven study addressing these gaps is imperative to better understand the effect of firm characteristics on environmental disclosure in Nigeria's oil and gas sector. In order to achieve the objectives of the study, the following null hypotheses were formulated

H₀₁: Firm size has no significant effect on environmental disclosure by listed oil and gas firms in Nigeria.

H₀₂: Return on assets has no significant effect on environmental disclosure by listed oil and gas firms in Nigeria.

H₀₃: Leverage has no significant effect on environmental disclosure by listed oil and gas firms in Nigeria.

H₀₄: Board size has no significant effect on environmental disclosure by listed oil and gas firms in Nigeria.

H₀₅: Board gender diversity has no significant on environmental disclosure by listed oil and gas firms in Nigeria

2.0 Literature Reviews

Conceptual Reviews

Environmental disclosure

Environmental disclosure is the voluntary or mandatory reporting of a company's environmental impacts, including emissions, energy consumption, waste management, and legal compliance. Kolk et al. (2022) define it as the communication of sustainability-related information to stakeholders to enhance transparency and support informed decision-making. It is a vital part of corporate social responsibility, especially in high-impact industries like oil and gas. Companies typically disclose such information through sustainability or annual reports. However, the quality of disclosure varies depending on regulatory enforcement and firm characteristics. While the definition is comprehensive, it may not fully address challenges like greenwashing or weak regulatory systems in developing countries such as Nigeria.

Environmental disclosure involves a company's communication of its environmental policies, impacts, and initiatives to stakeholders, aiming to enhance transparency, legitimacy, and risk management (Lozano et al., 2022). It includes both quantitative data and qualitative information on areas like climate strategy and pollution control. Standardized frameworks such as GRI and TCFD have helped unify reporting practices globally. However, in Nigeria, environmental disclosure remains at a developmental stage. While this definition highlights the structured nature of global disclosure practices, it may underemphasize the uneven adoption of such practices across different institutional contexts.

Firm size

Firm size is a financial characteristic reflecting a company's scale, often measured by total assets, revenue, or market capitalization. Larger firms are typically more visible and subject to higher scrutiny, prompting them to engage in more environmental disclosure (Alawattage & Fernando, 2022). Firm size influences a firm's access to resources, capital markets, and managerial expertise. It also impacts stakeholder engagement and regulatory expectations. In oil and gas, large firms are expected to lead in environmental transparency. The size of a firm may determine the complexity and depth of reporting. While size is a useful proxy for capacity, it may not always correlate with genuine sustainability commitment, especially in politically shielded firms.

Firm size refers to the magnitude of a company's operations and its economic presence in the market, often indicated by the number of employees or volume of production. Larger firms are presumed to have better infrastructures for data collection and reporting, including environmental data (Ntim et al., 2021). They may also face greater regulatory and societal pressures to disclose environmental impacts. However, large size can sometimes lead to bureaucratic inefficiencies. In the Nigerian context, firm size can also reflect ownership type and foreign affiliation. This definition captures non-financial indicators but may inadequately consider informal power structures that influence disclosure decisions.

Return on Assets (ROA)

Return on Assets (ROA) is a profitability ratio that measures how efficiently a firm uses its total assets to generate earnings. It is calculated as net income divided by total assets. High ROA indicates operational efficiency and strong financial performance (Okafor et al., 2023). Firms with higher ROA are more likely to invest in environmental sustainability and transparency as part of their

strategic positioning. ROA is also seen as a signal to investors about long-term viability. In environmental disclosure studies, ROA often moderates the firm's capacity to disclose. ROA may fluctuate due to non-operating income or one-time gains, potentially distorting its role in influencing environmental practices.

ROA represents the return a company earns from the deployment of its assets, showing the profitability of its operations relative to asset investment. According to Owolabi and Olayemi (2022), financially healthy firms tend to voluntarily disclose more environmental information to maintain a positive reputation. ROA acts as a performance metric that reflects how sustainability goals align with economic objectives. In capital-intensive sectors like oil and gas, ROA is crucial for stakeholder evaluation. This definition connects profitability with disclosure but may ignore non-financial motivations such as ethical commitments or regulatory compliance.

Leverage

Leverage refers to the extent to which a firm uses borrowed funds to finance its operations and investments, commonly measured by the debt-to-equity ratio. High leverage increases financial risk but may also pressure firms to disclose more information to reassure creditors (Ezejiofor et al., 2022). Leverage plays a dual role in environmental disclosure, serving as both a motivator and a constraint. Firms with manageable debt may invest in sustainability and use disclosure to enhance creditworthiness. Excessive leverage, however, can reduce environmental commitment.

This view might oversimplify leverage by ignoring its industry-specific implications or the firm's relationship with debt holders.

Leverage denotes the proportion of debt in a firm's capital structure and is a key determinant of financial stability and strategic flexibility. Firms with high leverage often face increased scrutiny from lenders and may engage in more detailed disclosure to signal sound governance (Akpan & Amadi, 2021). It influences risk-taking behavior and the firm's ability to respond to environmental crises. Leverage may also affect the firm's willingness to commit to long-term sustainability goals. Although this definition highlights external stakeholder pressure, it may underestimate internal managerial discretion in disclosure practices.

Board size

Board size refers to the total number of directors serving on a firm's board and is a key aspect of

corporate governance. A larger board may bring diverse skills and perspectives, which enhance the oversight of environmental issues (Ntim et al., 2021). It improves decision-making quality and monitoring, promoting comprehensive environmental reporting. In oil and gas firms, larger boards may also better manage stakeholder interests. Board size, however, must be balanced to avoid inefficiencies. While large boards promote inclusivity, they may also suffer from coordination challenges and diluted accountability.

Board size is the numerical composition of a firm's governing body and reflects the governance structure that influences strategy and policy implementation. According to Okafor et al. (2023), firms with larger boards tend to disclose more environmental information due to broader oversight and stakeholder sensitivity. Increased board size often correlates with regulatory compliance and better risk management. However, the benefits may plateau beyond a certain size. The definition overlooks how board dynamics (e.g., independence or activism) may outweigh mere numerical strength in shaping disclosure behavior.

Gender diversity

Gender diversity refers to the presence of individuals of different genders, particularly women, on corporate boards or leadership teams. It contributes to more balanced perspectives, improved ethical standards, and stronger stakeholder engagement (Lozano et al., 2022). Research shows that gender-diverse boards are more likely to advocate for transparency and environmental responsibility. Female directors may push for policies that promote sustainability and accountability. This inclusiveness strengthens firm legitimacy. The definition may be limited by focusing on presence rather than influence or tokenism issues within male-dominated boards.

Gender diversity in corporate governance relates to the equitable representation of male and female directors in strategic decision-making positions. Akpan and Amadi (2021) argue that women often bring unique insights into social and environmental governance, influencing disclosure practices. Gender-diverse boards are more responsive to societal concerns and tend to support sustainability-oriented decisions. This diversity improves risk awareness and corporate image. While this definition emphasizes positive outcomes, it may not fully address structural barriers women face in influencing board-level decisions.

Empirical Reviews

The following empirical reviews of the independent variables were conducted

Firm Size and environmental Disclosure

Owolabi and Olayemi (2022) examined the impact of firm size on environmental disclosure among listed oil and gas firms in Nigeria, driven by inconsistencies in reporting despite similar industry risks. Using a quantitative design and panel regression, they analyzed secondary data from 10 firms over a 10-year period (2011–2020). The study found a positive and significant relationship, indicating that larger firms disclose more environmental information. They recommended stronger regulatory guidelines to improve disclosure among smaller firms. However, the study measured firm size only by total assets, overlooking other relevant indicators like revenue or market capitalization.

Okafor et al. (2023) investigated the effect of firm characteristics, including firm size, on environmental disclosure among Nigerian oil and gas firms. Motivated by weak enforcement of existing regulations, the study used a correlational design and OLS regression on data from 9 listed firms spanning 2012 to 2021. Findings revealed a strong and statistically significant relationship, showing that larger firms disclose more due to greater public visibility. The authors recommended size-specific disclosure benchmarks. However, the study's failure to control for firm-specific and time effects may weaken the reliability of its results, considering the panel nature of the data.

Profitability and environmental Disclosure

Ezejiofor et al. (2022) examined the impact of profitability, measured by return on assets (ROA), on environmental disclosure in Nigeria's oil and gas sector. Motivated by the gap between profitability and sustainability transparency, the study used a descriptive design and multiple regression on data from 8 listed firms between 2010 and 2020. Results showed a significant positive relationship, indicating that more profitable firms are more likely to invest in and report environmental initiatives. The authors recommended allocating profits to environmental management. However, the relatively small sample size may limit the generalizability of the findings.

Akpan and Amadi (2021) investigated whether return on assets (ROA) influences environmental disclosure among Nigerian oil and gas firms, focusing on the gap between profitability and corporate social responsibility. Using an ex post facto design, they analyzed data from 10 listed firms between 2013 and 2020. The study found a weak but positive relationship between ROA and environmental disclosure, suggesting that profitability has a limited influence. The authors recommended offering incentives to less profitable firms to promote sustainable reporting. However, reliance on content

analysis for scoring disclosure may have introduced subjectivity, especially regarding the quality of information disclosed.

Leverage and environmental Disclosure

Okafor et al. (2023) examined the role of leverage in shaping environmental disclosure practices among listed oil and gas firms in Nigeria. The research focused on whether debt pressure influences a firm's decision to disclose environmental information. A sample of 9 listed oil and gas firms from 2011 to 2020 was selected from a population of 12 using purposive sampling. Panel data regression was used for analysis. The results indicated a significant negative relationship between leverage and environmental disclosure, suggesting that highly leveraged firms may reduce disclosure due to financial constraints. The study recommended regulatory intervention to ensure disclosure is not compromised by debt obligations. The study did not explore whether the source of debt (local vs. international lenders) influenced the degree of environmental disclosure.

Owolabi and Olayemi (2022) explored leverage as a financial determinant of environmental disclosure in Nigeria's oil and gas sector. The study was driven by concerns that firms under debt pressure may prioritize financial over environmental commitments. Secondary data were collected from annual reports of 10 firms listed between 2012 and 2020. Leverage was measured as debt-to-equity ratio, and environmental disclosure was scored based on a checklist. Using fixed-effect regression, the study found that leverage had a negative but statistically insignificant effect on environmental disclosure. The authors recommended developing flexible reporting standards for firms with high debt levels. The study used a disclosure checklist that may not fully capture the depth and credibility of environmental disclosures, potentially affecting result validity.

Board Size and environmental Disclosure

Ntim et al. (2021) studied how board structure, particularly board size, affects environmental disclosure among Sub-Saharan African firms, with a focus on Nigeria's oil and gas sector. The research problem centered on the lack of effective governance driving low disclosure levels. A quantitative design was used, analyzing panel data from 12 listed oil and gas firms between 2010 and 2020. Using generalized least squares (GLS), the study found that board size positively and significantly affects environmental disclosure. Larger boards were associated with more comprehensive reporting due to diversified expertise and greater oversight. The authors recommended expanding board size strategically to enhance governance. The inclusion of multiple Sub-Saharan

countries could limit the specificity of Nigeria-focused policy implications despite the presence of country-level controls.

Okafor et al. (2023) focused specifically on Nigerian oil and gas firms to assess the impact of board size on environmental reporting. The study was motivated by increasing stakeholder pressure for governance-led sustainability initiatives. Using data from 9 listed oil and gas firms over a 10-year period (2011–2020), the authors applied random-effects regression to determine the relationship. Results showed a significant positive relationship between board size and environmental disclosure. Firms with larger boards were found to engage more with environmental performance issues. The authors recommended revising corporate governance codes to emphasize environmental responsibilities. The study did not differentiate between executive and non-executive directors, which could affect the interpretation of the board's influence on disclosure.

Board Gender and environmental Disclosure

Nwobu and Okoye (2022) explored how board gender diversity affects environmental disclosure among six oil and gas firms in Nigeria over a 10-year period. Using panel regression and data based on the GRI framework, they found a positive but statistically insignificant relationship between female board representation and disclosure. This suggests that while gender diversity may promote transparency, the impact was not strong enough to draw firm conclusions. The study recommended policies to increase female board participation but was limited by not considering other board features and using a relatively short panel.

Similarly, Adegbite and Olayinka (2023) examined seven listed oil and gas firms from 2015 to 2022, using GLS regression to assess the effect of female inclusion on environmental disclosure. They found a marginally significant positive relationship, indicating that gender-diverse boards slightly improved disclosure. However, the effect was weak, and the study acknowledged that other governance or policy factors may be needed to strengthen the relationship. Their analysis was limited by a lack of control variables and reliance on a disclosure index without third-party verification. Both studies highlight the potential of gender diversity to influence environmental reporting, though the evidence remains inconclusive.

Theoretical Reviews

Legitimacy Theory, introduced by Dowling and Pfeffer in 1975, suggests that firms strive to align their operations with societal norms to secure ongoing acceptance. Within Nigeria's oil and gas sector, this

theory explains environmental disclosure as a tactic for managing public perception and avoiding criticism. Larger firms, being more visible, tend to disclose more to maintain legitimacy. Profitability (ROA) also influences disclosure, as successful firms are expected to exhibit corporate responsibility. Firms with high leverage may disclose more to reassure lenders, while board size contributes through diverse perspectives that support transparency. A key limitation of the theory is its ambiguity in measuring legitimacy and distinguishing genuine sustainability efforts from image management. Nonetheless, it remains a valuable framework for linking firm characteristics with environmental disclosure behaviors.

3.0 Methodology

This study made use of ex-post-facto research design. This design was adopted because it helps to explain the relationship between the dependent and independent variables and also the researcher is not able to manipulate the variables because the events have occurred and cannot be manipulated. Data collection was done using secondary material through annual report and accounts of sampled firms. A dichotomous procedure of content analysis technique of gathering data was used in codifying qualitative information into categories in order to derive quantitative values. Any of the sampled firm selected could score a maximum of sixty (60) points and a minimum of 0. The formula for calculating the reporting score using the sixty (60) disclosure index items in ISO 14031 benchmark as adopted from previous studies by (Wiseman 1982 and Uwigbo 2011) is shown below.

$$RS = \frac{\sum_{i=1}^{60} r_i}{60}$$

Where:

RS = Reporting score r_i = a score of (1) if the item is reported and (0) if not reported.

$i = 1, 2, 3, \dots, 60$. All the reported items are then summed up and divided by 60 to arrive at a value for the dependent variable.

As of December 2023 there were seven (7) oil and gas firms listed on the Nigerian Exchange Group (NGX). The companies include Conoil, Eterna Oil, Japaul Oil, MRS Oil, Oando PLC, Seplat Energy and TotalEnergies Marketing Nigeria. The study uses a census study where the sample size was same as the population. In order to find the effect of firm characteristics of firm size, return on assets, leverage, board size as independent variables on environmental disclosure as the dependent variable a multiple regression analysis was adopted through the use of SPSS (Version 23) software.

The functional relationship was given as follows as adapted from the works Owolabi and Olayemi,

(2022):

Model

$$ENVI_i = \beta_0 + \beta_1 FMSZ_i + \beta_2 ROA_i + \beta_3 LEVE_i + \beta_4$$

$$BOSZ_i + U_{i, \dots \dots \dots (1)}$$

Where, β_0 is the intercept while β_{1-4} is the coefficient of the independent variables.

Table 1.**Variables Definition and Measurement**

Variables	Definitions	Measurements	Sources/References
Dependent variables			
Env1	Environmental disclosure quantity	unweighted disclosure approach and a firm is scored "1" for an item disclosed in the annual report and "0" if not disclosed. The sum of disclosures is then divided by 60 items in the checklist to get an index	Uwigbe 2014
Independent variables			
Fmsz	Firm size	Log of total assets at year end.	Ohidoa, Omokhudu and Oserogho (2016)
Leve	Leverage	Debt/Equity at year end.	Uwigbe 2014
Roa	Return on assets	Net profit after tax/total assets at year end.	Ezejiofor et al (2022)
Bosz	Board Size	Total number of members on the board at year end.	
Gend	Board gender	Female directors/ number of members on the board at year end.	Ezhilarasi and Kabra (2017)

Source: Compiled by the Author**4. Results and Discussion**

The descriptive statistics for environmental disclosure among listed oil and gas firms in Nigeria reveal a mean score of 0.2150, indicating that, on average, firms disclose about 21.5% of the expected environmental information. The minimum disclosure level is 0.13,

while the maximum is 0.47, suggesting moderate variability in disclosure practices across firms. The standard deviation of 0.09090 shows a relatively low spread around the mean, implying some consistency, albeit still inadequate disclosure levels sector-wide.

Table 2 . Descriptive statistics of variables

	N	Minimum	Maximum	Mean	Std. Deviation
Environmental Disclosure	70	.13	.47	.2150	.09090
Firm size	70	5.75	13.45	8.9200	1.74461
Return on assets	70	.01	3.39	.3320	.56904
Leverage	70	-.18	.68	.1044	.10984
Board size	70	6.00	13.00	10.3000	2.11516
Board Gender	70	.00	.56	.2994	.13983

Source: SPSS (Version 23) Outputs

Firm size, measured as the natural logarithm of total assets, has a mean value of 8.9200, with values ranging from 5.75 to 13.45. This wide range suggests

significant disparity in the scale of operations among the firms. The standard deviation of 1.74461 indicates substantial variability in firm size, which may

potentially explain differences in disclosure behavior, given that larger firms often have more resources and stakeholder pressure to report.

Return on assets (ROA), a measure of financial performance, has a mean of 0.3320, indicating that, on average, firms earn about 33 kobo in profit for every ₦1 of assets. The minimum value is 0.01, while the maximum reaches 3.39, suggesting that while some firms are barely profitable, others generate significantly higher returns. The standard deviation of 0.56904 reflects high variability in financial performance across firms.

Leverage, which represents the ratio of debt to total assets, has a mean of 0.1044, meaning that, on average, about 10% of the firms' capital structure is financed through debt. Interestingly, the minimum value is -0.18, which may reflect accounting anomalies or restructuring scenarios, while the maximum is 0.68. The standard deviation of 0.10984 indicates modest variability in firms' debt profiles.

Board size has a mean of 10.30 members, with a minimum of 6 and a maximum of 13 directors. The standard deviation of 2.11516 suggests moderate variation in board composition size, which may influence strategic decision-making, including

environmental reporting.

Lastly, board gender diversity, measured as the proportion of female directors on the board, shows a mean of 0.2994, indicating that women make up roughly 30% of board members on average. The minimum value is 0.00, signifying firms with no female representation, while the maximum value of 0.56 shows that in some firms, over half the board is female. The standard deviation of 0.13983 suggests meaningful variability in gender composition across the sample.

The correlation matrix in Table 3 reveals several significant relationships among the variables under investigation. Environmental disclosure is positively and significantly correlated with firm size ($r = 0.593$, $p < 0.01$), suggesting that larger firms tend to disclose more environmental information. This is consistent with expectations, as larger firms typically face more stakeholder scrutiny and possess greater resources for voluntary disclosures. Additionally, environmental disclosure is positively correlated with leverage ($r = 0.479$, $p < 0.01$), indicating that firms with higher debt ratios are more inclined to disclose environmental information, possibly as a signal to creditors of responsible environmental behavior.

Table 3 Correlation Matrix

	Environmental Disclosure	Firm size	Return on assets	Leverage	Board size	Board Gender	VIF
Environmental Disclosure	1						
Firm size	.593**	1					2.782
Return on assets	-.250*	-.243*	1				1.213
Leverage	.479**	.284*	-.228	1			1.395
Board size	.606**	.784**	-.164	.408**	1		2.911
Board Gender	-.256*	.050	.312**	-.340**	-.017	1	1.274

Source: SPSS (Version 23) Outputs

A strong positive correlation also exists between environmental disclosure and board size ($r = 0.606$, $p < 0.01$), implying that firms with larger boards may have more diverse perspectives and expertise that enhance environmental reporting. However, a significant negative correlation is observed between environmental disclosure and board gender diversity ($r = -0.256$, $p < 0.05$), which is somewhat surprising. This result may suggest that, contrary to some expectations, higher female representation on the board does not necessarily translate into greater environmental disclosure in this context.

Firm size is also positively correlated with leverage ($r = 0.284$, $p < 0.05$) and strongly with board size ($r = 0.784$, $p < 0.01$), indicating that larger firms not only take on more debt but also tend to have larger boards. Meanwhile, firm size has a significant negative correlation with return on assets ($r = -0.243$, $p < 0.05$), suggesting that bigger firms may not necessarily be the most financially efficient.

Return on assets shows a weak but significant negative correlation with environmental disclosure ($r = -0.250$,

$p < 0.05$), indicating that more profitable firms may disclose less environmental information, potentially due to a focus on financial rather than non-financial performance metrics. Interestingly, return on assets is positively correlated with board gender ($r = 0.312$, $p < 0.01$), implying that gender-diverse boards may be associated with better financial outcomes.

Leverage is negatively correlated with board gender ($r = -0.340$, $p < 0.01$), suggesting that firms with more gender-diverse boards tend to be less leveraged. Leverage is also moderately and positively associated with board size ($r = 0.408$, $p < 0.01$), which may reflect the role of larger boards in facilitating debt-based financing.

The Variance Inflation Factors (VIFs) for all variables are below the critical threshold of 10, with the highest being 2.911 for board size. This indicates that

multicollinearity is not a major concern among the explanatory variables, and they can be reliably included in a multivariate regression analysis.

The regression analysis in Table 4 investigated the effect of firm-specific characteristics on environmental disclosure among listed oil and gas firms in Nigeria. The model recorded an R-squared of 0.508 and an adjusted R-squared of 0.469, indicating that approximately 50.8% of the variation in environmental disclosure is explained by the independent variables in the model. The F-statistic of 13.212 and its corresponding p-value of 0.000 confirm that the overall model is statistically significant at the 1% level, implying that the set of firm characteristics collectively influence environmental disclosure.

Table 4 Regression Results

Ind. Variables	Coefficients OLS	Standard Error OLS	T Statistics OLS	P-Values
Constants	.353	.047	-.718	.475
Firm size	-.017	.008	2.416	.019
Return on assets	.214	.015	-.173	.863
Leverage	.235	.086	2.069	.043
Board size	-.192	.006	1.572	.121
Board Gender	.353	.064	-1.936	.057
No of Obs	70	70	70	70
R-Squared	.508			
Adjusted R-Squared	.469			
F-Statistic	13.212			
P-Value	0.000			

Source: SPSS (Version 23) Outputs

The coefficient for firm size is -0.017, with a p-value of 0.019, which is significant at the 5% level. This leads to the rejection of the null hypothesis, suggesting that firm size has a significant negative effect on environmental disclosure. This finding is not in tandem with those of Owolabi and Olayemi (2022) who found a positive and significant relationship between firm size and environmental disclosure. Contrary to prior expectations and the positive correlation observed earlier, this finding implies that larger firms in the Nigerian oil and gas sector may disclose less environmental information, potentially due to reputational risk management or strategic opacity.

The coefficient for return on assets is 0.214, with a p-value of 0.863, indicating a statistically insignificant effect. Thus, the null hypothesis is not rejected, and it is concluded that profitability, as measured by return

on assets, does not significantly influence environmental disclosure in this context. This finding is not in tandem with that of Ezejiofor et al. (2022) whose findings indicated a significant positive relationship between ROA and environmental disclosure.

The coefficient for leverage is 0.235, with a p-value of 0.043, making it significant at the 5% level. The null hypothesis is rejected, suggesting that leverage has a significant positive impact on environmental disclosure. This finding is not in line with those of Okafor et al. (2023) that indicated a significant negative relationship between leverage and environmental disclosure. This supports the view that highly leveraged firms may disclose more environmental information to appease debt holders and project transparency.

The coefficient for board size is -0.192, with a p-value of 0.121, indicating a statistically insignificant relationship. Therefore, the null hypothesis is not rejected, suggesting that the size of the board does not significantly influence environmental disclosure practices among these firms. This finding opposes that of Ntim et al. (2021) who found that board size positively and significantly affects environmental disclosure.

The coefficient for board gender is 0.353, with a p-value of 0.057, which is marginally insignificant at the 5% level but would be significant at the 10% level. The findings are in line with that of Nwobu and Okoye (2022) that found a positive but statistically insignificant relationship between female board representation and disclosure. Thus, while the null hypothesis is not formally rejected at the 5% level, the result hints at a weak positive relationship between gender diversity on the board and environmental disclosure. This suggests that increasing female participation in board governance may promote stronger environmental transparency, although more robust evidence is needed.

In conclusion, the hypothesis testing reveals that firm size and leverage significantly affect environmental disclosure, while return on assets, board size, and board gender do not exert statistically significant influence at the 5% level. These findings underscore the importance of financial structure and firm scale in shaping environmental reporting behaviors in Nigeria's oil and gas sector.

5.0 Conclusion and Recommendations

The study concludes that firm-specific characteristics significantly influence environmental disclosure among listed oil and gas firms in Nigeria. The regression model explained 50.8% of the variation in disclosure, with firm size and leverage identified as key predictors. Notably, firm size was negatively associated with disclosure, implying that larger firms disclose less, while leverage had a positive effect, likely driven by creditor expectations. Other variables, return on assets, board size, and gender diversity were not statistically significant, though board gender diversity showed a near-significant effect, hinting at a possible role in enhancing transparency.

To enhance environmental disclosure among listed oil and gas firms in Nigeria, this study recommended several variable-specific recommendations. Given the negative link between firm size and disclosure, regulators should enforce stricter reporting requirements for larger firms to ensure accountability. Since leverage positively affects disclosure, financial institutions and regulators are advised to tie loan conditions or ratings to firms' environmental reporting standards. Although return on assets was not

significant, firms should still align sustainability goals with financial performance to balance profitability and responsibility. Regarding board size, governance codes should maintain emphasis on board effectiveness to ensure appropriate environmental oversight. The near-significant influence of board gender diversity suggests that promoting women's inclusion in board leadership could enhance environmental awareness, warranting policies like affirmative action. Finally, making standardized frameworks like the ISO 14031 checklist mandatory will promote consistency, comparability, and credibility in environmental reporting across the sector.

REFERENCE

- Akpan, E. J., & Amadi, L. (2021). Corporate environmental disclosure practices in Nigeria's oil sector: An assessment of host community expectations. *Journal of African Business*, 22(3), 320–336. <https://doi.org/10.1080/15228916.2020.1844543>
- Alawattage, C., & Fernando, S. (2022). Corporate characteristics and strategic disclosure in emerging economies. *Journal of Accounting in Emerging Economies*, 12(1), 45–61. <https://doi.org/10.1108/JAEE-08-2020-0190>
- Dowling, J., & Pfeffer, J. (1975). Organizational legitimacy: Social values and organizational behavior. *Pacific Sociological Review*, 18(1), 122–136. <https://doi.org/10.2307/1388226>
- Ezejiofor, R. A., Adigwe, P. K., & John-Akamelu, C. R. (2022). Environmental reporting and accountability in the oil and gas sector: Evidence from Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 12(1), 5–6. <https://doi.org/10.6007/IJARAFMS/v12-i1/10236>
- Ezhilarasi, G. & Kaba K.C (2017). The impact of corporate governance attributes on environmental disclosure: Evidence from India. *Indian Journal of corporate Governance*, 1(1), 201-2020.
- Fernando, S., & Lawrence, S. (2021). A thematic analysis of corporate environmental disclosure: The oil and gas industry in focus. *Journal of Cleaner Production*, 279, 123710. <https://doi.org/10.1016/j.jclepro.2020.123710>
- García-Sánchez, I. M., Rodríguez-Ariza, L., & Frías-Aceituno, J. V. (2023). The role of institutional pressures and stakeholder engagement in environmental reporting. *Corporate Social Responsibility and*

Environmental Management, 30(1), 88–101.
<https://doi.org/10.1002/csr.2359>

- Jain, T., Jamali, D., & Fortanier, F. (2023). Greenwashing in oil and gas: The role of transparency in ESG reporting. *Business Strategy and the Environment*, 32(3), 1155–1169. <https://doi.org/10.1002/bse.3124>
- Kolk, A., Levy, D., & Pinkse, J. (2022). Corporate responses to climate change: The role of disclosure and strategy. *European Management Journal*, 40(1), 17–28. <https://doi.org/10.1016/j.emj.2021.05.005>
- Lozano, R., Ceulemans, K., & Alonso-Almeida, M. M. (2022). Sustainability reporting in oil and gas: Stakeholder engagement and institutional pressures. *Journal of Business Ethics*, 180(2), 465–483. <https://doi.org/10.1007/s10551-021-04785-6>
- Ntim, C. G., Opong, K. K., & Danbolt, J. (2021). Board structure, corporate characteristics and environmental disclosure in Sub-Saharan Africa. *Business Strategy and the Environment*, 30(5), 2471–2488. <https://doi.org/10.1002/bse.2759>
- Ohioda T. Omokhudu O., & Oserogha I.A (2016). Determinants of environmental disclosure
International Journal of Advanced Academic Research, 2(8), 2488-9849
- Okafor, T. G., Ogbodo, U. K., & Chijindu, O. I. (2023). Environmental disclosures and performance of oil and gas firms in Nigeria. *Journal of Accounting and Financial Management*, 9(2), 90–104.
- Owolabi, S. A., & Olayemi, A. O. (2022). Environmental reporting and sustainable development: Evidence from listed oil and gas companies in Nigeria. *African Journal of Accounting and Financial Research*, 5(1), 45–59.
- Uwigbe U. (2014). Corporate environmental reporting practices: a comparative study of Nigerian and South African firms. An unpublished PhD thesis submitted to the department of accounting, Covenant University, Ota, Ogun State.