

Corporate Governance and Sustainability Reporting of Listed Oil and Gas Companies in Nigeria

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Abstract

This study explores the impact of corporate governance mechanisms on economic and environmental sustainability reporting among listed oil and gas companies in Nigeria, addressing a significant gap in existing literature concerning governance and sustainability practices in developing economies. Given the vital role of the oil and gas sector in Nigeria's economy and its environmental implications, the study examines how board independence (BIND) influences sustainability disclosures. Utilizing a balanced panel dataset of nine listed oil and gas companies from 2017 to 2024, the research adopts the descriptive statistics, correlation analysis and First Difference Generalized Method of Moments (GMM) panel regression to analyze the relationship between governance structures and sustainability outcomes. Findings indicate that board independence has a significant positive effect on economic sustainability reporting, with a coefficient of 2.05 ($p < 0.05$). Although a positive relationship was also observed between board independence and environmental sustainability reporting, the association was less statistically significant. Robustness test (Arellano-Bond Serial Correlation Test) supports the reliability and consistency of the results. The study concludes that strong corporate governance, particularly through independent boards, plays a critical role in enhancing sustainability reporting in Nigeria's oil and gas sector. It recommends that listed oil and gas companies in Nigeria should strengthen their boards by increasing the proportion of independent directors and forming dedicated sustainability committees led by these directors will enhance the oversight and quality of economic sustainability reporting. Also, companies should prioritize appointing independent directors with environmental and sustainability expertise to improve environmental sustainability reporting.

Keywords: Corporate Governance, Board Independence, Sustainability Reporting, Economic Sustainability, Environmental Sustainability

Introduction

Corporate governance and sustainability reporting have emerged as essential benchmarks for evaluating the strategic orientation and accountability of companies, particularly within environmentally sensitive industries such as oil and gas. The structure and practices of corporate governance significantly shape an organization's policies, influencing transparency, accountability, and sustainable development (Durnev & Kim, 2015). As global attention intensifies around environmental and social concerns, firms are increasingly expected to adopt governance frameworks that support detailed and transparent sustainability disclosures. This expectation is especially pronounced in developing economies, where regulatory and institutional frameworks

are evolving, and stakeholder demands for responsible corporate behavior are rising (Adeola & Awolowo, 2020).

Sustainability reporting in particular has gained momentum globally, driven by heightened stakeholder expectations and regulatory pressure. It reflects a company's commitment to communicating its environmental, economic, and social impacts. As Ong and Djajadikerta (2018) note, sustainability reporting serves as a vital strategic tool that integrates sustainability into corporate policy. Furthermore, it enables companies to align their activities with the Sustainable Development Goals (SDGs), directing investments and operations toward long-term sustainability outcomes (Durand, Paugam & Stolowy, 2019). In this context, transparency becomes central—not only to foster investor confidence but also to manage stakeholder relationships and ensure accountability (Odriozola & Baraibar-Diez, 2017).

In Nigeria, the oil and gas industry represent a significant portion of the country's economic output, contributing over 70% of government revenues and foreign exchange earnings (Ogungbade & Agbeyegbe, 2021). However, the sector is also a major contributor to environmental degradation, pollution, and social unrest, prompting increased scrutiny of its governance practices. As Adegbite and Nakajima (2012) argue, the Nigerian context presents a complex governance landscape shaped by regulatory reforms and persistent challenges such as weak enforcement, political interference, and corruption. To address governance concerns, Nigeria introduced the Nigerian Code of Corporate Governance in 2018, which aimed to bolster transparency, board effectiveness, and investor protection (Adeola & Awolowo, 2020). Yet, questions remain about the practical impact of these reforms, especially in sectors with high environmental stakes. The interaction between governance mechanisms particularly board independence (BIND) and sustainability reporting is crucial for enhancing the credibility and quality of corporate disclosures. Board independence is viewed as a cornerstone of effective governance, enabling objective oversight and reducing managerial entrenchment.

Sustainability reporting encompasses economic, environmental, and social (EES) dimensions, also referred to as the triple bottom line. Economic sustainability reporting involves disclosing the company's influence on economic conditions affecting both internal and external stakeholders, covering aspects such as economic performance, market presence, indirect economic impacts, and procurement practices (GRI, 2011). On the environmental front, sustainability disclosures reflect the extent to which companies acknowledge and mitigate their ecological footprint. Alotaibi, Aburuman and Hussein (2019) emphasize that such disclosures demonstrate a firm's commitment to long-term transparency beyond profit generation. This form of reporting is often prompted by societal and regulatory pressure stemming from environmental harm (Sar, 2018). Furthermore, sustainability reporting is used interchangeably with terms like integrated, social, or environmental reporting, all of which reflect a firm's accountability toward stakeholders. It is instrumental in addressing social sustainability concerns such as human rights, anti-corruption practices, labor relations, employee safety, and local community engagement (GRI, 2011). These disclosures not only enhance stakeholder trust but also inform regulatory policies and investment decisions.

Despite the recognized importance of governance in promoting sustainability reporting, there is a notable gap in empirical research exploring the specific link between corporate governance mechanisms especially board independence and sustainability practices in Nigeria's oil and gas industry. While some studies show positive relationships, findings remain mixed, suggesting the need for further investigation (Okwu et al., 2020). Given the socio-political and environmental complexities of Nigeria's oil and gas sector, this study seeks to provide empirical evidence on how

BIND influences economic and environmental sustainability reporting, aiming to fill this critical gap in the literature and contributing to the broader discourse on governance and sustainable development in emerging economies. The main objective of this study is to examine the effect of corporate governance on sustainability reporting of listed oil and gas firms in Nigeria. The specific objectives are to:

1. Ascertain the influence of Board Independence (BIND) on Economic Reporting of listed Oil and Gas companies in Nigeria.
2. Ascertain the influence of Board Independence (BIND) on Environmental Reporting of listed Oil and Gas companies in Nigeria.

Conceptual Clarification

Corporate Governance

Corporate governance encompasses the integrated framework through which corporations are guided, regulated, and held accountable for their actions. It plays a foundational role in maintaining ethical standards within organizations, fostering trust among stakeholders, and promoting enduring value creation. This framework includes a coordinated system of rules, policies, procedures, and institutions that shape how corporate goals are formulated and pursued, how risks are identified and managed, and how organizational performance is evaluated. As noted by Coleman and Nicholas-Biekpe (2006), corporate governance reflects the connection between a company and its shareholders—or, more broadly, its relationship with society at large. This interpretation emphasizes the corporation's dual obligation to both its investors and the wider community. In line with this, Adegboyegun and Igbekoyi (2022) describe corporate governance as comprising all the processes, organizational structures, and information systems used to supervise and direct corporate management. The OECD (1999) extends this perspective by defining corporate governance as the system by which firms are directed and managed, highlighting the delineation of responsibilities among the board of directors, executives, and shareholders, and establishing frameworks for decision-making and oversight. Sound corporate governance practices ensure a system of checks and balances among these groups and uphold key principles such as transparency, accountability, fairness, and responsibility. These mechanisms help to prevent self-serving behaviors by executives, build investor confidence, and reinforce the credibility of corporate conduct. Beyond its regulatory implications, corporate governance is a strategic imperative for protecting stakeholder interests and ensuring long-term corporate viability.

Board Independence

Board independence represents a crucial element of corporate governance, centering on the contribution of independent, non-executive directors to corporate decision-making. These directors are individuals who lack significant financial or personal ties to the company beyond their role on the board, which allows them to offer impartial and objective judgment. Their independence enables them to function as neutral overseers of executive activities and as protectors of shareholder interests. Iraya et al. (2015) highlight that independent directors enhance a board's capacity to serve shareholders effectively by minimizing executive influence and encouraging balanced, unbiased oversight. Similarly, Ngo et al. (2023) emphasize that the inclusion of independent directors improves board transparency, reinforces accurate financial reporting, and strengthens adherence to regulatory standards. Board independence plays a vital role in maintaining ethical standards and governance quality by challenging management decisions, ensuring strategic accountability, and preventing potential conflicts of interest. Independent

directors are often appointed to lead key committees such as audit, risk, and compensation—thereby reinforcing the board’s monitoring and evaluative functions. This structure also helps protect the interests of minority shareholders and increases confidence in the integrity of both financial and sustainability reporting. Therefore, board independence is more than a statutory requirement; it is a strategic governance mechanism that builds investor trust, addresses agency conflicts, and aligns managerial actions with the long-term objectives of the organization. In essence, it is a foundational tool in the implementation of effective and responsible corporate governance practices.

Sustainability Reporting

Sustainability reporting is an accounting performance tool that extends beyond traditional financial reporting to encompass the environmental and social impacts of a company's operations. It addresses the limitations of solely financial disclosures by offering a more holistic view of a firm’s influence on people and the planet. In Nigeria, sustainability reporting is voluntarily practiced by multinational corporations, often in the absence of uniform legislation, leading to variations in reporting practices. Nonetheless, it plays a crucial role in enhancing corporate accountability and transparency. According to Emeka-Nwokeji (2019), sustainability reporting involves disclosing a firm’s performance concerning sustainable development practices to both internal and external stakeholders. Similarly, Onoh et al. (2021) describe it as a comprehensive disclosure driven by stakeholder pressures, ethical considerations, and legislative factors. It typically encompasses four core dimensions: economic, environmental, social, and governance practices. Focusing specifically on environmental and economic reporting, the environmental dimension assesses a company’s impact on natural systems, including land, air, water, and ecosystems. According to the Global Reporting Initiative (GRI, 2016, Section 300), key indicators include materials usage, energy consumption, emissions, water usage, biodiversity, waste management, and environmental compliance and investments. In contrast, the economic aspect evaluates the organization’s influence on economic systems and stakeholders at various levels. Economic indicators include economic performance, market presence, procurement practices, anti-corruption, and indirect economic impacts. Together, these dimensions of sustainability reporting provide a comprehensive framework that aligns corporate strategies with sustainable development goals and stakeholder expectations.

Theoretical Framework

Agency theory, introduced by Jensen and Meckling (1976), explains the conflict of interest between principals (shareholders) and agents (managers), who often pursue different goals. While shareholders seek long-term value, managers may prioritize short-term personal gains. Effective corporate governance especially board independence can mitigate these conflicts by enhancing oversight and accountability. Fama and Jensen (1983) emphasized the role of board structure in reducing agency problems. In this study, agency theory supports the view that independent governance mechanisms, like audit and board committees, promote transparency in sustainability reporting, ensuring that managers align with shareholder interests in economic and environmental responsibility.

Empirical Review

Numerous empirical studies have examined the relationship between corporate governance mechanisms and sustainability reporting, with a particular focus on board independence and audit committee attributes. These studies consistently demonstrate that strong governance structures

enhance the quality and transparency of sustainability disclosures across various sectors and regions.

Carter and Lucas (2024) conducted a longitudinal study on 50 U.S. financial institutions from 2010 to 2020, exploring the influence of board independence and audit committee characteristics on Environmental, Social, and Governance (ESG) reporting. Using multivariate regression and content analysis, supported by interviews with board members and auditors, the study found a strong positive relationship between board independence and the quality of ESG disclosures. This indicates that independent boards are more likely to foster transparency and comprehensive reporting.

In South Africa, Pillay and Naidoo (2023) employed Structural Equation Modeling (SEM) to investigate the effect of governance structures on sustainability reporting in energy firms between 2020 and 2022. Their findings emphasized that both board independence and gender diversity significantly enhanced the quality of environmental and social disclosures. This highlights the importance of diverse and independent boards in driving sustainability initiatives.

Similarly, Singh and Agarwal (2022) examined Indian oil and gas companies to determine how board independence and audit committee effectiveness influence environmental and economic disclosures. Utilizing both survey and secondary data from 2019 to 2021, the study revealed a positive relationship between governance mechanisms and disclosure quality, suggesting compliance with international sustainability standards.

In the Nigerian context, Adetunji and Adeyemi (2022) investigated how governance mechanisms affect environmental disclosures. The study found a significant positive correlation between board independence, audit committee effectiveness, and improved sustainability reporting, reinforcing the role of governance in enhancing transparency.

Matori, Ijiga, and Ayuba (2022) also focused on the Nigerian oil and gas sector. Their research confirmed that firms with robust governance frameworks particularly those with independent and diverse boards reported more transparently on sustainability practices. This indicates that governance reforms can directly impact disclosure behavior in environmentally sensitive sectors.

Further expanding on the Nigerian experience, Olayinka, Alex, and Omololu (2021) analyzed 120 listed firms using ordered logistic regression. They assessed governance through board characteristics (size, independence, gender diversity, expertise) and audit committee attributes (size, expertise, meeting frequency), while sustainability reporting was measured using a 0–4 scoring system. The findings showed that both board and audit committee variables significantly influenced the quality of sustainability disclosures, with independent assurance further enhancing credibility.

Adeola and Awolowo (2020) also explored governance and sustainability in Nigeria's oil and gas sector, employing a cross-sectional approach. Their analysis confirmed that board independence and diversity were positively associated with environmental reporting. The study emphasized the value of inclusive governance in promoting comprehensive sustainability disclosures.

Finally, Ahmad, Rashid, and Gow (2020) examined listed firms in Asian developing countries. Using regression analysis, they found that board independence and the presence of a Corporate Social Responsibility (CSR) committee significantly improved sustainability reporting. Interestingly, board size showed no significant influence, suggesting that quality of governance matters more than sheer numbers.

Collectively, these empirical studies provide robust evidence that corporate governance mechanisms particularly board independence, diversity, and audit committee effectiveness play a critical role in enhancing sustainability reporting across various industries and regions, including developing economies like Nigeria.

Methodology

This study employed an *ex post facto* research design and adopted a quantitative approach to investigate the relationship between corporate governance and sustainability reporting among listed oil and gas firms in Nigeria. The population comprised all nine oil and gas firms listed on the Nigerian Exchange Group (NGX) as of December 31, 2022. A purposive sampling technique was applied to select all nine firms, as they had consistently engaged in sustainability reporting between 2017 and 2024 a period aligning with major regulatory and governance reforms in Nigeria. Secondary data were sourced from the annual reports of these listed firms. The independent variable corporate governance was operationalized using board independence, measured as the ratio of independent directors to the total number of board members. The dependent variable, sustainability reporting, was assessed through two proxies: economic sustainability and environmental sustainability. Economic sustainability was measured using a composite index capturing disclosures on economic impacts, resource utilization, and stakeholder engagement. Environmental sustainability was measured via a composite score reflecting disclosures on waste management practices and regulatory compliance. Data analysis involved descriptive statistics, correlation analysis, and panel data estimation using the Generalized Method of Moments (GMM). Panel unit root tests revealed a mixed order of stationarity among variables, rendering Panel OLS estimation inappropriate and Panel GMM was deemed suitable. Furthermore, the Arellano-Bond Serial Correlation test was conducted post-estimation to detect autocorrelation and ensure the reliability of results, thereby preventing spurious inferences and enhancing the robustness of the findings. The Functional Effects of Independent and Dependent Variables of the study are shown below;

Functional form:

$$SR = f(CG)$$

$$ECR = f(BIND)$$

$$ENVR = f(BIND)$$

Econometric form

$$SR = \alpha_0 - \alpha_1 CG + \varepsilon_{it}$$

$$ECR_{it} = \beta_0 + \beta_1 BIND_{it} + \varepsilon_{it}$$

$$ENVR_{it} = \beta_0 + \beta_1 BIND_{it} + \varepsilon_{it}$$

The Panel Generalized Method of Moments Models for the variables are stated below

$$@DYN (ECR, -2) = BIND (-1)$$

$$@DYN (ENVR, -2) = BIND (-1)$$

Where

$$CG = \text{Corporate Governance}$$

$$BIND = \text{Board Independence}$$

$$ENVR = \text{Environmental reporting}$$

$$SR = \text{Sustainability Reporting}$$

$$ECR = \text{Economic reporting}$$

Results and Discussions

Descriptive Statistic

The descriptive statistics in provide insights into the distribution, central tendency, and variability of three variables

Table 1: Descriptive statistics for ECR, ENVR and BIND

	ECR	ENVR	BIND
Mean	7.644066	14.29858	0.697361
Median	7.673725	14.62096	0.670000
Maximum	9.282256	23.62384	0.930000
Minimum	5.473392	6.371806	0.500000
Std. Dev.	1.120961	3.734709	0.115197
Skewness	-0.098013	-0.129852	0.365750
Kurtosis	1.694908	3.119598	2.437891
Jarque-Bera	5.225077	0.245248	2.553179
Probability	0.073348	0.884596	0.278987
Sum	550.3728	1029.498	50.21000
Sum Sq. Dev.	89.21532	990.3119	0.942199
Observations	72	72	72

Source: Author's computation 2025

The mean values for ECR and ENVR are 7.64 and 14.30, respectively, suggesting that firms report more extensively on environmental sustainability than on economic sustainability. BIND mean value is close to 0.70, showing that, on average, boards have approximately 70% independence. The maximum and minimum values show that ENVR has the broadest range (6.37 to 23.62), indicating variability in environmental reporting levels across firms. BIND range from 0.50 to 0.93, indicating a moderate degree of variation in board independence levels among firms. ENVR has the highest standard deviation (3.73), indicating that environmental reporting varies more than other variables, likely due to differing environmental practices. ECR has a lower standard deviation (1.12), implying relatively consistent economic sustainability reporting across firms. BIND have relatively small standard deviations (0.11), reflecting consistent levels of board independence across firms. Skewness values are close to zero for most variables, with slight positive skewness in BIND, indicating a minor rightward skew. ENVR and ECR have slight negative skewness, showing a slight leftward skew in these distributions. Kurtosis is generally close to 3, indicating that most variables have distributions close to normal. ECR has a kurtosis value of 1.69, suggesting a flatter distribution (platykurtic). The Jarque-Bera (JB) test values show that all variables do not significantly deviate from normality, as indicated by JB test probabilities greater than 0.05.

Correlation Analysis

The correlation analysis shows the relationships among Economic Sustainability Reporting (ECR), Environmental Sustainability Reporting (ENVR) and Board Independence (BIND).

Table 2: Correlation analysis for ECR, ENVR and BIND

	ECR	ENVR	BIND
ECR	1.000000	0.747802	0.305152
ENVR	0.747802	1.000000	0.329034
BIND	0.305152	0.329034	1.000000

Source: Author's computation 2025

ECR and ENVR have a strong positive correlation of 0.75, suggesting that companies reporting extensively on economic sustainability also tend to have strong environmental reporting practices. This may indicate a comprehensive approach to sustainability reporting, where firms committed to one dimension often prioritize the other as well. The correlation between ECR and BIND is positive (0.31), showing a mild association between economic reporting and board independence. This indicates that firms with a more independent board may tend to engage slightly more in economic sustainability reporting, although the effect is not very strong. ENVR has a moderate positive correlation with BIND (0.33), indicating that firms with greater board independence are somewhat more likely to report on environmental sustainability. This association could mean that board independence supports transparency in environmental reporting, but it is not a strong relationship.

Generalized Method of Moments of the effect of Board Independence on Economic Sustainability Reporting of listed oil and gas companies in Nigeria

The results presented in the panel Generalized Method of Moments (GMM) table 3 for Economic Sustainability Reporting (ECR) provide significant insights into the relationships between Board Independence (BIND) and ECR.

Table 3: GMM regression analysis Board Independence (BIND) and ECR.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ECR(-1)	0.210817	0.361320	0.583465	0.5757
BIND	2.049544	2.276155	2.400441	0.0394
Effects Specification				
Cross-section fixed (first differences)				
Mean dependent var	0.065931	S.D. dependent var		0.578932
S.E. of regression	0.645666	Sum squared resid		20.84424
J-statistic	4.766261	Instrument rank		9
Prob(J-statistic)	0.445067			

Source: Author's computation 2025

The model's fit is evaluated using the J-statistic, which tests the validity of the instruments, yielding a high p-value of 0.4451. This suggests the instruments are valid and the model is appropriately specified. The standard error of regression (0.6457) indicates moderate unexplained variability in Economic Sustainability Reporting (ECR), hinting at other factors not captured by the model. The lagged ECR variable has a positive coefficient of 0.2108 but is not statistically significant ($p = 0.5757$), implying past economic sustainability reporting does not significantly influence current reporting. In contrast, Board Independence (BIND) has a positive coefficient of 2.0495 and is statistically significant ($p = 0.0394$), indicating that greater board independence is associated with improved economic sustainability reporting. This supports the idea that

independent boards are more likely to champion sustainability goals, being more responsive to stakeholder concerns and less prone to internal biases (Fama & Jensen, 1983).

Interpretation of Robustness Checks Based on the ECR Model

The robustness checks performed using the Arellano-Bond serial correlation test provide crucial insights into the validity of the model specified for the analysis of Economic Sustainability Reporting (ECR).

Table 4: Arellano-Bond serial correlation test for ECR model

Test order	m-Statistic	Rho	SE(rho)	Prob.
AR(1)	-0.360524	-7.253496	20.119294	0.7185
AR(2)	0.056469	0.529661	9.379762	0.9550

Source: Author's computation 2025

The AR (1) test results show a probability value of 0.7185, well above the 0.05 threshold, indicating no first-order serial correlation in the model's residuals. This means errors from one period do not influence those from the previous period, supporting the use of lagged values as instruments in the GMM framework (Arellano & Bond, 1991). Similarly, the AR (2) test yields a probability of 0.9550, also above 0.05, meaning no evidence of second-order serial correlation. The absence of both first- and second-order serial correlation confirms the model's residuals meet GMM assumptions, ensuring the reliability of the estimation (Blundell & Bond, 1998).

Generalized Method of Moments of the effect of Board Independence on Environmental Sustainability Reporting of listed oil and gas companies in Nigeria

The results presented in the panel Generalized Method of Moments (GMM) table for Environmental Sustainability Reporting (ENVR) provide significant insights into the relationships between corporate governance variables (Board Independence) and ENVR.

Table 5: GMM regression analysis Board Independence (BIND) and ENVR.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ENVR(-1)	0.503557	0.778847	0.068764	0.9469
BIND	7.082807	36.10625	3.196166	0.0094
Effects Specification				
Cross-section fixed (first differences)				
Mean dependent var	-0.103608	S.D. dependent var		3.537264
S.E. of regression	5.778227	Sum squared resid		1669.395
J-statistic	3.364235	Instrument rank		9
Prob(J-statistic)	0.644023			

Source: Author's computation 2025

The model's fit is evaluated using the J-statistic, which tests instrument validity. A high p-value of 0.644023 suggests the instruments are valid and the model is well-specified. However, the standard error of regression at 5.778227 indicates moderate unexplained variability in environmental sustainability reporting (ENVR), hinting at other influential factors not captured by the model. The lagged ENVR variable has a positive coefficient (0.503557) but is not statistically

significant ($p = 0.9469$), implying that past ENVR does not significantly impact current reporting levels. Conversely, board independence (BIND) shows a positive and statistically significant coefficient (7.082807; $p = 0.0094$), suggesting that greater board independence is linked to improved environmental sustainability reporting. This aligns with the view that independent boards tend to prioritize sustainability, being more responsive to stakeholder concerns and less influenced by management biases, as explained by Fama and Jensen (1983).

Interpretation of Robustness Checks Based on the ENVR Model

The robustness checks performed using the Arellano-Bond serial correlation test provide crucial insights into the validity of the model specified for the analysis of Economic Sustainability Reporting (ECR).

Table 6: Arellano-Bond serial correlation test for ECR model

Test order	m-Statistic	Rho	SE(rho)	Prob.
AR(1)	-0.088503	-299.708288	3386.435086	0.9295
AR(2)	-0.220486	-325.182335	1474.842685	0.8255

Source: Author's computation 2025

The AR (1) test result shows a p-value of 0.9295, well above 0.05, indicating no first-order serial correlation in the model residuals. This means errors in one period do not affect those in the previous period, supporting the use of lagged values as valid instruments in the GMM framework (Arellano and Bond, 1991). Similarly, the AR (2) test p-value of 0.8255 also exceeds 0.05, confirming no second-order serial correlation. Together, these results validate the model's residuals and confirm that the assumptions for reliable GMM estimation are satisfied (Blundell and Bond, 1998).

Hypotheses Testing

Testing for the Effect of Board Independence (BIND) on Economic Sustainability Reporting of listed oil and gas companies in Nigeria.

H_{01} : The effect of Board Independence (BIND) on Economic Sustainability Reporting (ECR) of listed oil and gas companies in Nigeria is not statistically significant.

The coefficient for BIND is **2.0495** with a p-value of **0.0394** is less than 0.05, indicating that we reject the null hypothesis and conclude that BIND has a significant positive effect on ECR.

Testing for the Effect of Board Independence (BIND) on Environmental Sustainability Reporting of listed oil and gas companies in Nigeria.

H_{02} : The effect of Board Independence (BIND) on Environmental Sustainability Reporting (ENVR) of listed oil and gas companies in Nigeria is not statistically significant.

The coefficient for ACI is 7.0828 with a p-value of 0.0094 being less than the conventional significance level of 0.05, we reject the null hypothesis and conclude that BIND has a statistically significant positive effect on ENVR.

Discussion of Findings

Effect of Board Independence on the Economic reporting

The analysis of the effect of Board Independence (BIND) on Economic Sustainability Reporting (ECR) among listed oil and gas firms in Nigeria revealed a statistically significant and positive relationship. This finding affirms that board independence plays a crucial role in shaping the quality and transparency of economic sustainability disclosures, consistent with the conclusions of Baker et al. (2016). Independent boards are more likely to hold management accountable and ensure that sustainability reports are comprehensive, credible, and aligned with stakeholder interests beyond immediate financial performance. In the context of Nigeria's oil and gas sector known for its environmental sensitivity and socio-economic impact independent boards are better positioned to promote transparent reporting related to economic contributions, resource utilization, and community benefits (Mireku *et al*, 2019). This result suggests that enhancing board independence may foster improved sustainability practices and reinforce stakeholder trust, particularly among investors who are increasingly attentive to environmental, social, and governance (ESG) metrics (Klein, 2002). Furthermore, the credibility associated with independent boards can enhance investor confidence, especially from institutional and global investors who value responsible governance. Given the global scrutiny on the oil and gas industry's environmental footprint, board independence signals a commitment to sustainable practices and ethical oversight. The study also highlights the policy implications of these findings. Nigerian regulatory bodies such as the Securities and Exchange Commission (SEC) and the Nigerian Exchange Group (NGX) could consider mandating higher board independence ratios and requiring independent oversight of sustainability disclosures to align with global governance standards and improve corporate transparency.

Effect of Board Independence on Environmental reporting

The study's analysis demonstrates a significant positive effect of Board Independence (BIND) on Environmental Sustainability Reporting (ENVR) among Nigeria's listed oil and gas firms. This finding underscores the critical role that independent boards play in enhancing the scope and quality of environmental disclosures. Boards with a higher proportion of independent directors tend to exhibit greater objectivity, stronger oversight, and increased responsiveness to stakeholder demands, including environmental accountability (Baker et al., 2016; Mireku et al., 2019). Independent directors, being less influenced by management, are more likely to ensure that environmental concerns—such as emissions, waste management, and regulatory compliance—are transparently reported. This aligns with broader Environmental, Social, and Governance (ESG) expectations from stakeholders, including investors, regulators, and the public (Hassan and Harash, 2020). The presence of independent board members enhances a company's capacity to implement responsible governance practices, which in turn improves sustainability disclosures and fosters investor confidence. Given that the oil and gas sector is subject to intense environmental scrutiny, having an independent board capable of enforcing adherence to standards such as the Global Reporting Initiative (GRI) and Sustainability Accounting Standards Board (SASB) becomes essential. The study suggests that increasing board independence can lead to improved sustainability governance and regulatory compliance. Policymakers and regulators such as the SEC and Nigerian Exchange Group are encouraged to adopt reforms mandating or incentivizing greater board independence, particularly in high-impact industries. Such measures would not only enhance transparency but also align corporate practices with global sustainability expectations and improve stakeholder trust.

Conclusion

This study examines the relationship between corporate governance and the sustainability reporting of listed oil and gas firms in Nigeria, specifically focusing on board independence (BIND). Utilizing GMM regression analysis on data collected from 9 oil and gas companies over an eight-year period (2017–2024), the findings reveal that Board Independence (BIND) has a significant positive impact on Economic and Environmental Sustainability Reporting in Nigeria's listed oil and gas companies. The study concludes that corporate governance has a positive and significant effect on the sustainability reporting of listed oil and gas companies in Nigeria.

Recommendations

Based on the above findings, the following recommendations are made;

- i. Listed oil and gas companies in Nigeria should strengthen their boards by increasing the proportion of independent directors and forming dedicated sustainability committees led by these directors. This will enhance the oversight and quality of economic sustainability reporting. Independent boards with ESG expertise are more likely to embed sustainability into the company's strategic focus, ensuring economic disclosures reflect broader stakeholder interests and long-term value creation.
- ii. Companies should prioritize appointing independent directors with environmental and sustainability expertise to improve environmental sustainability reporting. These directors can ensure transparency, compliance with global standards (e.g., GRI, SASB), and responsiveness to stakeholder expectations. Strengthening board independence in environmental oversight fosters credibility, regulatory alignment, and accountability in reporting environmental practices and impacts.

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