

GENDER DIVERSITY AND MARKET PERFORMANCE OF LISTED OIL AND GAS COMPANIES IN NIGERIA

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ABSTRACT

This study investigated the effect of gender diversity on the market performance of listed oil and gas companies in Nigeria. Specifically, it examined the effect of gender diversity on share price, Tobin's Q and market capitalisation, controlling for firm size and leverage. Data were collected from listed Nigerian oil and gas companies, yielding sixty firm year observations. The study employed descriptive and inferential statistics, including Pearson correlation analysis, Variance Inflation Factor (VIF) diagnostics, Hausman specification testing, and pooled, random effects and fixed effects regression analysis to test the hypotheses. The results revealed that gender diversity had a significant positive effect on share price (coefficient = 0.267, p-value = 0.004), Tobin's Q (coefficient = 0.241, p-value = 0.009) and market capitalisation (coefficient = 0.284, p-value = 0.003). Firm size had a consistently positive and significant effect across all three models, while leverage had a consistently negative and significant effect. The correlation analysis showed moderate positive relationships between gender diversity and each market performance measure, and the VIF results confirmed the absence of multicollinearity. These findings highlighted the importance of gender inclusive governance and management structures in shaping investor perception of firm value in a historically male dominated sector. The study concluded that Nigerian oil and gas companies that pursued greater female representation in governance and management were likely to be rewarded with stronger market valuation.

Keywords: Gender Diversity, Market Performance, Share Price, Tobin's Q, Market Capitalisation, Oil and Gas, Nigeria

1.0 Introduction

In the years following the global reassessment of corporate governance standards that intensified after the 2008 financial crisis, listed companies across emerging markets have faced growing pressure to diversify the composition of their boards and management teams. Among the most closely examined dimensions of this diversification has been gender diversity, the extent to which women are represented within governance and management structures, which reflects deeper questions about monitoring quality, stakeholder legitimacy and strategic decision making within the firm (Terjesen, Couto & Francisco, 2020). This phenomenon has gained renewed significance in resource dependent economies like Nigeria, where the oil and gas sector plays a central role in national revenue generation, foreign exchange earnings and industrial employment. As Nigerian oil and gas companies navigate a volatile commodity price environment, understanding whether gender diverse governance and management structures are associated with stronger market performance has become essential to evaluating the sector's long term investment attractiveness.

Globally, the extractive and energy industries have witnessed a slow but consistent shift toward gender inclusive governance, driven by institutional investor pressure, sustainability reporting frameworks and evolving regulatory codes. In Nigeria, the Securities and Exchange Commission and the Financial Reporting Council have encouraged, though not strictly mandated, greater female representation on the boards of listed companies (Securities and Exchange Commission, 2021). Against this backdrop, gender diversity may act either as a genuine driver of improved monitoring and firm valuation, or as a largely symbolic gesture with limited market consequence, depending on the extent to which representation reaches a meaningful threshold and is embedded within both governance and management functions (Kirsch, 2018; Adusei, 2022). Nigerian oil and gas companies, often characterised by a historically technical, engineering dominated recruitment culture, may experience different degrees of gender diversity uptake, influenced by governance quality, ownership structure and regulatory exposure. However, empirical studies exploring the market performance implications of gender diversity in emerging African energy sectors remain scarce.

Furthermore, while traditional performance indicators such as return on assets and return on equity continue to dominate corporate governance research in Nigeria, market based indicators of investor perception, namely share price, Tobin's Q and market capitalisation, have received comparatively limited attention in relation to gender diversity within the oil and gas sector specifically. This omission is particularly concerning given the sector's exposure to global crude oil price volatility, exchange rate instability and the far reaching regulatory changes introduced by the Petroleum

Industry Act of 2021, all of which shape investor confidence independently of governance characteristics (Ogbeide & Akanbi, 2022; Chukwu & Eze, 2023). This literature gap limits the ability of regulators, boards and investors to evaluate whether continued investment in gender diverse governance is likely to be rewarded by the market. Therefore, this study sought to fill this critical gap by investigating how gender diversity affected three distinct market performance proxies, namely share price, Tobin's Q and market capitalisation, in Nigerian listed oil and gas companies.

The persistence of low gender diversity levels within Nigerian oil and gas companies also carries implications that extend beyond individual firm valuation into the broader question of capital allocation efficiency within one of the country's most economically significant sectors. Given the scale of the sector's contribution to national revenue and foreign exchange earnings, any systematic mispricing of governance quality within listed oil and gas companies has consequences not only for individual shareholders but for the wider signal that Nigerian capital markets send to prospective domestic and foreign investors regarding the maturity of the country's corporate governance environment. If gender diverse companies are, in practice, better monitored and more resilient to the commodity price and regulatory shocks that periodically affect the sector, yet the market has not been shown to price this characteristic accurately due to a scarcity of disaggregated, sector specific empirical evidence, then both investors and policymakers are left operating with an incomplete picture of firm quality. This consideration reinforces the practical urgency of the Nigeria specific, sector specific investigation undertaken in this study, beyond its purely academic contribution to the corporate governance literature.

Research Objectives

- To examine the effect of gender diversity on the share price of listed oil and gas companies in Nigeria.
- To assess the effect of gender diversity on Tobin's Q of listed oil and gas companies in Nigeria.
- To evaluate the effect of gender diversity on the market capitalisation of listed oil and gas companies in Nigeria.

Research Hypotheses

H₀¹: Gender diversity has a significant positive effect on the share price of listed oil and gas companies in Nigeria.

H₀²: Gender diversity has a significant positive effect on Tobin's Q of listed oil and gas companies in Nigeria.

Ho³: Gender diversity has a significant positive effect on the market capitalisation of listed oil and gas companies in Nigeria.

2.0 Literature Review

Gender Diversity

The concept of gender diversity refers to the proportional representation of women within the governance and management structures of a firm, encompassing both the board of directors and top executive positions. This phenomenon deviates from the historically male dominated composition of corporate boards, particularly within capital intensive, technically oriented sectors such as oil and gas. Empirical evidence suggests that gender diverse governance structures bring broader perspectives, stronger risk oversight and improved monitoring capacity to strategic decision making, thereby enhancing the quality of oversight exercised over management (Garcia Meca, Uribe Bohorquez & Cuadrado Ballesteros, 2020; Terjesen et al., 2020). Gender diversity is particularly evident in the extent to which firms appoint women to non executive board roles as well as principal executive positions, where the willingness or reluctance to diversify may stem from various reasons, including entrenched recruitment cultures, limited pipelines of technically qualified female candidates, or the absence of regulatory mandates in certain jurisdictions (Kirsch, 2018; Adusei, 2022).

In the context of Nigerian listed oil and gas companies, gender diversity takes on heightened importance. These companies operate in an environment characterised by commodity price volatility, exchange rate instability, and evolving regulatory expectations following the Petroleum Industry Act of 2021. Such conditions affect investor perception unpredictably, making governance quality a vital signal of firm resilience and long term value. However, due to the technical, engineering oriented recruitment culture that has historically characterised the sector, Nigerian oil and gas companies may find it challenging to achieve meaningful gender diversity, thereby limiting the extent to which the market can price this governance characteristic into firm valuation (Uwuigbe, Uwuigbe & Okorie, 2019; Adeyemi & Fagbemi, 2020). From a theoretical standpoint, gender diversity can be understood through both agency theory and resource dependence theory. Agency theory suggests that more diverse governance structures reduce information asymmetry and constrain opportunistic managerial behaviour (Jensen & Meckling, 1976), while resource dependence theory recognises that women in governance and management bring access to distinct professional networks, expertise and legitimacy that male dominated structures may lack (Terjesen et al., 2020).

Gender Diversity and Share Price

Share price provides the most direct and immediately observable measure of investor sentiment toward a listed firm, reflecting the market's continuous reassessment of expected future earnings, risk and governance quality. Gender diversity, by strengthening board monitoring and bringing broader strategic perspectives, is conceptually expected to enhance investor confidence and, by extension, share price performance (Kirsch, 2018). For Nigerian listed oil and gas companies, which face fluctuating commodity prices and regulatory conditions, this relationship carries particular significance, since any governance related improvement in investor confidence could help stabilise valuation amid broader sector volatility. Conceptually, a firm's willingness to diversify its governance and management structures may itself function as a signal of broader institutional quality, which investors are theorised to price into the firm's ordinary share value.

Gender Diversity and Tobin's Q

Tobin's Q compares the market value of a firm to the replacement cost of its underlying assets, and is widely regarded as a forward looking measure of how effectively a firm is expected to deploy its asset base to generate future value. Gender diversity is theorised to influence Tobin's Q through the improved monitoring, broader strategic perspective and enhanced legitimacy that gender diverse governance structures are expected to bring to the firm (Garcia Meca et al., 2020; Adusei, 2022). In Nigerian listed oil and gas companies, where asset intensive operations and exposure to commodity price cycles complicate investor assessment of underlying asset quality, gender diversity may serve as an additional governance signal that shapes how the market prices the firm relative to its book value of assets.

Gender Diversity and Market Capitalisation

Market capitalisation captures the total value the market attaches to a firm's outstanding shares, and is particularly sensitive to both share price movement and the scale of a firm's equity base. Gender diversity may influence market capitalisation through its effect on investor confidence, institutional legitimacy and perceived governance quality, all of which shape the aggregate valuation the market assigns to a firm's total equity (Ogbeide & Akanbi, 2022). Conceptually, greater gender diversity increases the range of professional networks, financing relationships and reputational endorsements available to a firm, each of which carries the potential to expand the pool of investors willing to hold the firm's shares, thereby supporting a larger aggregate market capitalisation.

Theoretical Framework

This study was anchored on Agency Theory, which provided a relevant lens for examining the effect of gender diversity in Nigerian listed oil and gas companies. Agency theory, as developed

by Jensen and Meckling (1976), highlighted the inherent conflict of interest between principals, namely shareholders, and agents, namely management, particularly where agents possessed more information and acted to protect their own interests rather than maximising shareholder value. In the context of governance composition, gender diverse boards and management teams were theorised to reduce this information asymmetry and to constrain opportunistic managerial behaviour by bringing more varied perspectives, reduced groupthink and stronger independent oversight to strategic decision making (Garcia Meca et al., 2020). This effect was expected to translate into stronger monitoring of capital allocation, risk taking and disclosure practices, ultimately strengthening investor confidence and market valuation. In the Nigerian oil and gas sector, this effect may be intensified by the historically male dominated recruitment culture of the industry, which meant that gender diverse firms may have signalled a departure from institutional inertia and a genuine commitment to governance quality (Uwuigbe et al., 2019; Adeyemi & Fagbemi, 2020). Therefore, agency theory effectively explained how gender diverse governance structures were expected to jointly influence monitoring quality and market performance.

Empirical Review

Uwuigbe, Uwuigbe and Okorie (2019) investigated board diversity and corporate performance among listed firms in Nigeria and discovered that gender diversity had a positive but modest effect on accounting performance, an effect notably weaker among capital intensive sectors including oil and gas relative to consumer goods and financial services firms. Their findings revealed that firms often struggled to translate governance level diversity into performance improvements where the underlying pool of technically qualified female candidates remained limited, consistent with the resource dependence theory's prediction that the value of diversity depends on the specific resources women bring to the firm. Similarly, Kirsch (2018) reviewed international evidence on female executive leadership and found that market based performance measures, such as share price and Tobin's Q, were considerably more likely to detect a significant positive relationship with gender diversity than accounting based measures. These insights highlight the market sensitive dimensions of gender diversity in both developed and developing economies.

Garcia Meca, Uribe Bohorquez and Cuadrado Ballesteros (2020) provided further support for the positive market effect of gender diversity in the energy sector, explaining that gender diverse firms recorded significantly lower earnings volatility and modestly improved market valuation, attributed to more conservative risk taking behaviour among gender diverse boards operating in a sector characterised by substantial commodity price risk. Nwude and Nwude (2018) examined the determinants of market performance among Nigerian listed firms and found that firm size exerted a positive and significant effect on Tobin's Q, providing an important methodological precedent for the inclusion of firm size as a control variable in subsequent Nigerian corporate governance

studies. Adeyemi and Fagbemi (2020) examined corporate governance attributes and firm value among listed oil and gas firms in Nigeria and found that gender diversity, alongside board independence, had a positive and statistically significant effect on Tobin's Q, again underscoring the market sensitivity of governance related variables within the sector.

Nnadi and Aghedo (2021) investigated gender diversity and financial performance among Nigerian listed manufacturing firms and found a statistically insignificant relationship between gender diversity and accounting performance, an outcome attributed to the relatively low average proportion of women recorded across the sample, which fell short of the critical mass threshold identified in the wider governance literature as necessary for gender diversity to meaningfully influence firm outcomes. Ogbeide and Akanbi (2022) examined the effect of firm size and leverage on the market performance of listed oil and gas firms in Nigeria and found that both variables jointly explained a substantial share of the variation in market performance, providing the immediate empirical precedent for the inclusion of firm size and leverage as control variables within the present study.

Adusei (2022) examined the relationship between gender diversity and firm value among a broad sample of African listed companies and found that firms with three or more women in governance recorded significantly stronger market valuation outcomes than firms with only token, single member representation, providing empirical support for the critical mass argument within an African institutional context directly comparable to Nigeria. Chukwu and Eze (2023) examined the effect of the Petroleum Industry Act of 2021 on the market performance of listed oil and gas firms in Nigeria and found that regulatory uncertainty during the transition period exerted a statistically significant depressing effect on market valuation, but that this depressing effect did not eliminate the positive contribution of stronger corporate governance practices, including gender diversity, to firm valuation during the same period.

Terjesen, Couto and Francisco (2020) conducted a multi country study of board diversity and found that the presence of independent and female directors positively impacted firm performance across a range of institutional settings, though the strength of this relationship varied depending on the regulatory environment and the extent to which female directors held genuine influence over board deliberations rather than symbolic representation. Their findings reinforced the theoretical distinction between critical mass representation and token representation that has become central to the gender diversity literature, and suggested that the Nigerian regulatory environment, which encouraged but did not mandate gender diversity, may produce a weaker effect than jurisdictions with binding quota requirements. Okonkwo and Ibe (2022) examined gender representation on the boards of Nigerian energy companies specifically and found that female board representation remained persistently low across the sector despite growing regulatory

attention, a pattern the authors attributed to the historically technical, engineering oriented recruitment pipeline that continued to constrain the pool of women eligible for board appointment in the industry. This finding provided important contextual grounding for the present study's expectation that gender diversity levels within the Nigerian oil and gas sector would remain moderate even where a positive market performance effect was detected.

Existing Gap and Contribution to the study

Despite increasing scholarly interest in gender diversity and firm performance, several critical gaps remain unaddressed that this study sought to fill. First, a contextual gap existed as many prior studies on gender diversity and market performance had been conducted in developed economies with stable market conditions, while limited research had focused on Nigeria's oil and gas sector, where commodity price volatility, regulatory changes and institutional weaknesses may significantly alter the governance performance relationship (Uwuigbe et al., 2019; Chukwu & Eze, 2023). Second, a sector specific gap persisted, as most Nigerian gender diversity studies had concentrated on banking, consumer goods and manufacturing firms, with relatively few targeting oil and gas companies, whose historically male dominated recruitment culture and capital intensive operations differ markedly from these other sectors (Adeyemi & Fagbemi, 2020; Nnadi & Aghedo, 2021). Third, a methodological gap was identified, as many prior studies relied on a single market performance proxy without formally testing for multicollinearity among explanatory variables or selecting between competing panel estimators through a Hausman specification test (Ogbeide & Akanbi, 2022). This study contributed to the literature by examining gender diversity against three distinct market performance proxies, namely share price, Tobin's Q and market capitalisation, and by formally testing for multicollinearity and selecting the appropriate panel estimator prior to hypothesis testing. The findings are expected to deepen empirical understanding of the governance performance relationship in Nigeria's oil and gas sector and offer practical insights for boards, regulators and investors.

3.0 Methodology

This study adopted an ex-post facto research design, which is appropriate for analysing relationships between gender diversity and market performance using existing historical data without manipulation of the variables. The design facilitates an objective evaluation of how gender diversity, measured as a composite indicator of female representation in governance and management, influenced share price, Tobin's Q and market capitalisation of Nigerian listed oil and gas companies. The population for the study comprised all oil and gas companies listed on the Nigerian Exchange as at the end of the most recent financial year covered by this study. From this population, a purposive sampling technique was used to select companies based on the availability,

consistency and completeness of annual financial reports, ensuring representation across upstream and downstream segments of the industry. This selection process yielded sixty firm year observations. Data for the study were sourced from secondary sources, particularly the audited annual financial statements of the sampled companies, verified using disclosures from the Nigerian Exchange fact books and the Central Bank of Nigeria statistical bulletin.

The study employed pooled Ordinary Least Squares, random effects and fixed effects panel regression analysis to assess the effect of gender diversity on each of the three market performance proxies, controlling for firm size and leverage. A Hausman specification test was conducted to identify the more efficient and consistent estimator between the fixed effects and random effects models. The F-statistic was used to test the overall significance of each regression model, while t-statistics evaluated the individual significance of regression coefficients at a 5% level of significance ($\alpha = 0.05$). In addition, Pearson correlation analysis and a Variance Inflation Factor test were conducted to detect multicollinearity and assess the strength of relationships among the variables prior to regression estimation.

Model Specification

This model was adopted to assess how gender diversity, along with firm size and leverage, affected the market performance of Nigerian listed oil and gas companies, measured through share price, Tobin's Q and market capitalisation. The econometric models are specified as:

$$SP_i = \beta_0 + \beta_1 GD_i + \beta_2 FSZ_i + \beta_3 LEV_i + \varepsilon_i \quad (\text{Model 1})$$

$$TQ_i = \beta_0 + \beta_1 GD_i + \beta_2 FSZ_i + \beta_3 LEV_i + \varepsilon_i \quad (\text{Model 2})$$

$$MCAP_i = \beta_0 + \beta_1 GD_i + \beta_2 FSZ_i + \beta_3 LEV_i + \varepsilon_i \quad (\text{Model 3})$$

Where:

SP = Share Price

TQ = Tobin's Q

MCAP = Market Capitalisation

GD = Gender Diversity

FSZ = Firm Size (natural logarithm of Total Assets)

LEV = Leverage (Total Debt to Total Assets)

β_0 = Constant term

$\beta_1, \beta_2, \beta_3$ = Coefficients

ε = Error term

Measurement of Variables

Variable Type	Variable	Proxy/Indicator	Measurement/Unit
Dependent	Share Price (SP)	Closing Market Price	Naira per ordinary share at financial year end
Dependent	Tobin's Q (TQ)	Market Value to Asset Replacement Ratio	(Market Value of Equity + Book Value of Debt) ÷ Book Value of Total Assets
Dependent	Market Capitalisation (MCAP)	Aggregate Equity Value	Share Price × Number of Shares Outstanding
Independent	Gender Diversity (GD)	Female Representation Ratio	Proportion of women in governance and management structures
Control Variable	Firm Size (FSZ)	log(Total Assets)	Natural logarithm of Total Assets
Control Variable	Leverage (LEV)	Debt Ratio	Total Debt ÷ Total Assets

Source: Author's compilation, 2025.

4.0 Results and Discussion

4.1 Descriptive Statistics

Table 2: Descriptive Statistics

Variable	Observation	Mean	Std. Dev.	Minimum	Maximum
Gender Diversity (GD)	60	0.183	0.104	0.000	0.400
Share Price (SP)	60	18.742	10.964	2.150	52.880
Tobin's Q (TQ)	60	1.624	0.742	0.710	3.940
Market Capitalisation (MCAP)	60	88,540.320	54,118.430	12,450.500	210,880.760
Firm Size (FSZ)	60	8.912	1.014	6.320	11.240
Leverage (LEV)	60	0.436	0.182	0.080	0.790

Source: Author's computation, 2025

The descriptive statistics presented in Table 2 provide essential insights into the central tendencies and dispersion of the variables relevant to this study. Gender diversity (GD) has a mean value of 0.183, or 18.3%, with a minimum of 0.000 and a maximum of 0.400, indicating that while some sampled companies recorded no female representation at all in certain years, others approached a diversity level close to 40%, and the standard deviation of 0.104 reflects a moderate degree of variation in gender composition across the panel. Share price (SP) averages 18.742 naira, ranging from 2.150 naira to 52.880 naira, a wide range that reflects the differing sizes and investor perceptions attached to the sampled companies. Tobin's Q (TQ) has a mean of 1.624, with values ranging from 0.710 to 3.940, indicating that on average the market valued the sampled companies above the replacement cost of their assets, although some firm year observations recorded valuations below replacement cost. Market capitalisation (MCAP) averages approximately 88,540.320, with a very wide range from 12,450.500 to 210,880.760 and a large standard deviation of 54,118.430, reflecting substantial disparity in firm scale within the sample. Firm size (FSIZE) averages 8.912, suggesting a generally large and fairly consistent scale of operations among the sampled companies, while leverage (LEV) averages 0.436, ranging from 0.080 to 0.790, indicating considerable variation in the extent to which the sampled companies financed operations through debt. These descriptive patterns collectively suggest that gender diversity, though moderate on average, varied meaningfully across the sample, providing sufficient variation to detect its relationship with market performance in the analysis that follows.

Correlation Analysis

Table 3: Correlation Matrix and Variance Inflation Factor

Variable	GD	SP	TQ	MCAP	FSIZE	LEV	VIF
GD	1.00						1.216
SP	0.468	1.00					-
TQ	0.521	0.612	1.00				-
MCAP	0.489	0.703	0.655	1.00			-
FSIZE	0.214	0.392	0.301	0.418	1.00		1.348
LEV	-0.178	-0.226	-0.194	-0.207	-0.143	1.00	1.154

Source: Author's computation, 2025

The correlation matrix in Table 3 offers a preliminary understanding of the relationships between gender diversity, the market performance proxies and the control variables. Gender diversity (GD)

shows a moderate positive correlation with share price (0.468), Tobin's Q (0.521) and market capitalisation (0.489), suggesting that companies with relatively higher gender diversity tend to record stronger market performance across all three proxies examined in this study. Gender diversity also correlates positively, though more weakly, with firm size (0.214), and negatively with leverage (-0.178), consistent with the view that larger, less indebted companies tend to exhibit somewhat higher gender diversity. Among the market performance proxies themselves, share price, Tobin's Q and market capitalisation are all positively and strongly correlated with one another, ranging from 0.612 to 0.703, indicating that the three measures capture overlapping but not identical dimensions of firm valuation. Leverage is negatively correlated with every other variable in the matrix, consistent with capital structure theory. Importantly, the Variance Inflation Factor values, all below 1.5 and comfortably below the commonly accepted threshold of 10, confirm that multicollinearity is not a threat in this dataset, with gender diversity recording a VIF of 1.216, firm size 1.348, and leverage 1.154. This ensures the reliability of the regression outcomes reported in the following section.

Regression Results

Table 4: Summary of Panel Regression Results (Dependent Variables: Share Price, Tobin's Q and Market Capitalisation)

Variable	Model 1: SP (RE)	Prob.	Model 2: TQ (FE)	Prob.	Model 3: MCAP (Pooled)	Prob.
Constant	0.796	0.010	0.721	0.031	0.842	0.009
Gender Diversity (GD)	0.267	0.004	0.241	0.009	0.284	0.003
Firm Size (FSZ)	0.164	0.021	0.151	0.038	0.176	0.018
Leverage (LEV)	-0.128	0.024	-0.116	0.047	-0.139	0.020

R² = 0.548 / 0.519 / 0.562; F-statistic = 24.936 / 22.184 / 26.418 (all p = 0.000)

Source: Author's computation, 2025.

The regression results in Table 4 provide strong empirical evidence on the effect of gender diversity on the market performance of Nigerian listed oil and gas companies, measured through share price, Tobin's Q and market capitalisation. Gender diversity has a statistically significant positive coefficient of 0.267 (p = 0.004) in the share price model, 0.241 (p = 0.009) in the Tobin's Q model, and 0.284 (p = 0.003) in the market capitalisation model, indicating that a unit increase in gender diversity is associated with a meaningful increase in each of the three market

performance proxies, holding firm size and leverage constant. This finding suggests that greater female representation in governance and management, even at the moderate levels observed in the sample, is associated with stronger investor confidence, possibly by preserving institutional legitimacy, broadening strategic oversight, or signalling stronger governance quality. Firm size has a positive and significant coefficient across all three models, ranging from 0.151 to 0.176, affirming that larger companies are better positioned to command stronger market valuation through greater analyst coverage and market liquidity. Conversely, leverage negatively and significantly affects all three performance measures, with coefficients ranging from negative 0.116 to negative 0.139, underscoring the vulnerability of firm valuation to elevated debt levels, particularly in a sector exposed to commodity price volatility. Each model records an R squared value between 0.519 and 0.562, meaning that between 51.9% and 56.2% of the variation in the respective dependent variable is explained by the independent variables, which is considerable for corporate governance panel data. The overall models are all statistically significant ($F = 22.184$ to 26.418 , $p < 0.0001$), confirming that the predictors jointly influence market performance. In summary, these results affirm that gender diversity is not merely a symbolic governance characteristic but a market relevant determinant of firm valuation in Nigeria's oil and gas sector.

Test of Hypotheses

Table 5: Summary of Hypothesis Test Results

S/N	Research Objective	Null Hypothesis (H_0)	Decision Rule	p-value	Decision	Conclusion
1	To examine the effect of gender diversity on share price	H_{01} : Gender diversity has no significant effect on share price	Reject H_0 if p-value < 0.05	0.004	Reject H_{01}	Gender diversity has a significant positive effect on share price.
2	To assess the effect of gender diversity on Tobin's Q	H_{02} : Gender diversity has no significant effect on Tobin's Q	Reject H_0 if p-value < 0.05	0.009	Reject H_{02}	Gender diversity has a significant positive effect on Tobin's Q.
3	To evaluate the effect of gender diversity on market capitalisation	H_{03} : Gender diversity has no significant effect on market capitalisation	Reject H_0 if p-value < 0.05	0.003	Reject H_{03}	Gender diversity has a significant positive effect on market capitalisation.

Source: Author's computation, 2025

Hypothesis 1: H_{01} : Gender diversity has no significant effect on share price of listed oil and gas companies in Nigeria. The first research objective was to examine the effect of gender diversity on share price. The decision rule applied was to reject H_0 if the p-value is less than 0.05. From the

regression output, the p-value associated with gender diversity was 0.004, which is clearly below the 0.05 threshold. Hence, the null hypothesis was rejected in favour of the alternative. This outcome signifies that gender diversity has a statistically significant and positive effect on the share price of listed oil and gas companies in Nigeria, supporting the view that greater female representation in governance and management enhances investor confidence and share price performance.

Hypothesis 2: H₀₂: Gender diversity has no significant effect on Tobin's Q of listed oil and gas companies in Nigeria. The second research objective was to assess the effect of gender diversity on Tobin's Q. Using the same decision rule, the reported p-value for gender diversity was 0.009. Since this value is below the 0.05 cutoff, the null hypothesis was also rejected. This indicates that gender diversity significantly and positively influences Tobin's Q, implying that companies with greater female representation are valued more favourably relative to the replacement cost of their assets.

Hypothesis 3: H₀₃: Gender diversity has no significant effect on market capitalisation of listed oil and gas companies in Nigeria. The third objective was to evaluate the effect of gender diversity on market capitalisation. The observed p-value for gender diversity was 0.003, which is significantly lower than 0.05, leading to the rejection of H₀₃. This result shows that gender diversity significantly and positively affects market capitalisation, the strongest of the three effects recorded in this study, suggesting that the aggregate market value the market assigns to gender diverse oil and gas companies exceeds that assigned to their less diverse counterparts.

Table 6: Diagnostic Test Table

S/N	Diagnostic Test	Test Statistic	p-value	Decision Rule	Conclusion
1	Breusch-Pagan/Cook-Weisberg Test for Heteroskedasticity	Chi ² = 2.14	0.144	Do not reject H ₀ if p > 0.05	No evidence of heteroskedasticity; errors have constant variance.
2	Variance Inflation Factor (VIF)	Mean VIF = 1.239	–	VIF < 10 indicates no multicollinearity	No multicollinearity problem among independent variables.
3	Shapiro-Wilk Test for Normality of Residuals	W = 0.968	0.187	Do not reject H ₀ if p > 0.05	Residuals are normally distributed.
4	Ramsey RESET Test for Model Specification	F(3, 56) = 1.21	0.302	Do not reject H ₀ if p > 0.05	Model is correctly specified; no omitted variable bias.

5	Durbin-Watson / Hausman Test	DW = 1.96; $\chi^2 = 5.734$	0.125 (Hausman)	DW ≈ 2 indicates no autocorrelation; Hausman $p > 0.05$ favours Random Effects	No autocorrelation detected; Random Effects preferred where applicable.
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Source: Author's computation, 2025

1. Breusch-Pagan/Cook-Weisberg Test for Heteroskedasticity. This test evaluates whether the variance of the residuals from the regression is constant (homoskedasticity) or varies with the level of an independent variable (heteroskedasticity). The test statistic reported is $\text{Chi}^2 = 2.14$ with a p-value of 0.144. Based on the decision rule, we conclude that there is no evidence of heteroskedasticity, supporting the reliability of the regression coefficients and inferences drawn in this study.

2. Variance Inflation Factor (VIF). The VIF assesses the degree of multicollinearity among independent variables. A mean VIF of 1.239 is well below the commonly accepted threshold of 10, indicating no multicollinearity problem. This enhances confidence in the robustness of the regression results reported in Table 4.

3. Shapiro-Wilk Test for Normality of Residuals. The Shapiro-Wilk test checks whether the residuals from the regression follow a normal distribution, a critical assumption for valid inference in OLS regression. The W statistic is 0.968 with a p-value of 0.187, exceeding 0.05, so we do not reject the null hypothesis that residuals are normally distributed, affirming that the inferences made about the effects of gender diversity on market performance are statistically valid.

4. Ramsey RESET Test for Model Specification. This test checks for omitted variable bias and functional form misspecification. The reported F-statistic is 1.21 with a p-value of 0.302, exceeding 0.05, so we do not reject the null hypothesis that the model is correctly specified, suggesting that the functional form adopted appropriately captures the relationship between gender diversity and market performance.

5. Durbin-Watson Test for Autocorrelation and Hausman Specification Test. The Durbin-Watson statistic of 1.96 indicates no autocorrelation in the residuals, since a value close to 2 implies independence of errors. The Hausman test, with a chi square statistic of 5.734 and a probability value of 0.125, exceeded the 0.05 threshold, indicating that the random effects estimator was preferred over the fixed effects estimator wherever no compelling firm specific correlation with the regressors was detected. All diagnostic tests support the validity of the panel regression models used in assessing the effect of gender diversity on market performance in the Nigerian oil and gas

sector, and the clean bill of health from these diagnostics justifies confidence in the regression findings reported in this study.

Discussion of Findings

The findings of this study provide robust empirical evidence on the effect of gender diversity on the market performance of Nigerian listed oil and gas companies, addressing the main objective and its three specific aims. Firstly, gender diversity exhibited a significant positive effect on share price, affirming that greater female representation in governance and management enhances investor confidence and market sentiment. This supports prior evidence from Kirsch (2018) and Garcia Meca et al. (2020), who found that market based performance measures are particularly sensitive to gender diversity. Secondly, the study revealed that gender diversity significantly improved Tobin's Q, consistent with findings by Adeyemi and Fagbemi (2020) and Adusei (2022), suggesting that gender diverse governance structures are associated with stronger asset based valuation in capital intensive sectors. Thirdly, gender diversity was found to exert its strongest effect on market capitalisation, aligning with Ogbeide and Akanbi (2022), indicating that the aggregate market value assigned to gender diverse oil and gas companies exceeds that assigned to less diverse counterparts. These results affirm Agency Theory and Resource Dependence Theory by showing that gender diverse governance structures translate into measurable, market relevant value, though the magnitude of this effect varied depending on which specific performance proxy was examined.

Beyond theoretical contributions, the findings directly respond to the research questions and fill critical gaps in the literature, particularly by examining gender diversity against three distinct market performance proxies within a single, methodologically rigorous framework, an approach seldom adopted in prior Nigerian studies. The study introduces a formal test for multicollinearity and a Hausman guided estimator selection process as a novel methodological contribution, offering a more robust empirical foundation than studies relying on a single estimator without diagnostic testing. This nuanced understanding challenges the assumption that gender diversity in Nigeria's oil and gas sector is merely symbolic, and instead proposes that even moderate gender diversity levels are associated with meaningful market performance gains. The study contributes to underexplored areas in African energy sector governance literature, where gender diversity has rarely been examined empirically against a composite set of market performance indicators. It also provides practical implications, suggesting that boards should strategically pursue gender diverse appointments not merely for compliance purposes but as a value enhancing governance strategy. Though contextual factors such as regulation, ownership structure and sample period may limit

generalisability, the study opens avenues for further research using dynamic panel methods or comparative cross-country data.

A further point of interest emerging from this study concerns the differential magnitude of the gender diversity coefficient across the three market performance proxies examined. The strongest effect was recorded on market capitalisation, followed by share price, with the comparatively more modest, though still highly significant, effect recorded on Tobin's Q. This pattern suggests that investors in the Nigerian oil and gas sector responded most strongly to gender diversity when evaluating a company's aggregate equity value and immediate trading price, and somewhat less strongly when assessing the company's valuation relative to the replacement cost of its underlying assets. This distinction is analytically useful because it indicates that gender diversity functions less as a signal about the productivity of a firm's physical asset base and more as a signal about the overall quality of governance and management that shapes broader investor sentiment, a nuance that would have remained undetected had the study relied on a single, undifferentiated market performance measure, as has been common in prior Nigerian corporate governance research (Ogbeide & Akanbi, 2022). This finding also lends indirect support to Kirsch's (2018) observation that market based performance measures are more sensitive to gender diversity signals than accounting based measures, since share price and market capitalisation, both of which are directly and continuously repriced by the market, recorded stronger effects than Tobin's Q, which depends in part on the book value of assets that is only periodically restated.

5.0 Conclusion and Recommendations

In conclusion, this study provided a comprehensive analysis of the effect of gender diversity on the market performance of Nigerian listed oil and gas companies, with a focus on share price, Tobin's Q and market capitalisation. The results confirmed that gender diversity significantly enhanced all three measures of market performance, reinforcing the notion that greater female representation in governance and management contributes to stronger investor confidence and firm valuation. The consistency of this positive effect across three distinct performance proxies, alongside firm size, and the consistent constraining effect of leverage, further highlighted the robustness of the governance performance relationship examined in this study. By filling gaps in the literature, particularly with respect to the composite measurement of market performance and the formal testing of multicollinearity and estimator selection, this study offered new insights into how gender diversity affects firm performance in Nigeria's oil and gas sector. Based on the findings of this study, several recommendations are proposed for both Nigerian listed oil and gas companies and policymakers to optimise market performance through gender diverse governance.

1. Pursue Deliberate Gender Diversity Policies:

Nigerian oil and gas companies should develop deliberate nomination and recruitment policies aimed at increasing female representation in both governance and management structures. Given the significant positive effect of gender diversity on share price, Tobin's Q and market capitalisation, companies should treat gender diversity as a value enhancing governance strategy rather than a compliance formality.

2. Extend Diversity Beyond the Boardroom:

Companies should extend gender diversity efforts beyond non executive board appointments into principal executive and management positions, ensuring that women hold roles with genuine operational and strategic authority rather than symbolic representation alone.

3. Strengthen Regulatory Disclosure Requirements:

The Securities and Exchange Commission and the Financial Reporting Council of Nigeria should strengthen gender diversity disclosure and target setting requirements specific to capital intensive, historically male dominated sectors such as oil and gas, given the sector's demonstrated lag relative to other listed industries.

4. Incorporate Gender Diversity into Investment Analysis:

Investors and financial analysts covering the Nigerian oil and gas sector should incorporate gender diversity metrics alongside traditional valuation drivers such as share price momentum, asset replacement value and market capitalisation trends when assessing the governance quality and long term value proposition of oil and gas equities.

References:

- Adegbite, E., & Nakajima, C. (2021). Corporate governance and board diversity disclosure in Nigeria. *Corporate Governance: The International Journal of Business in Society*, 21(4), 601–618.
- Adeyemi, S. B., & Fagbemi, T. O. (2020). Corporate governance attributes and firm value of listed oil and gas companies in Nigeria. *Journal of Accounting and Taxation*, 12(2), 45–58.
- Adusei, M. (2022). Gender diversity and firm value in African listed companies. *International Journal of Managerial Finance*, 18(3), 512–534.
- Chukwu, G. J., & Eze, F. O. (2023). The Petroleum Industry Act and market performance of listed oil and gas firms in Nigeria. *Nigerian Journal of Energy Economics*, 7(2), 101–119.

- Garcia Meca, E., Uribe Bohorquez, M. V., & Cuadrado Ballesteros, B. (2020). Gender diversity, risk and performance in energy firms. *Energy Policy*, 138, Article 111124. <https://doi.org/10.1016/j.enpol.2019.111124>
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Kirsch, A. (2018). The gender composition of corporate boards: A review and research agenda. *The Leadership Quarterly*, 29(2), 346–364. <https://doi.org/10.1016/j.leaqua.2017.06.001>
- Nnadi, C. S., & Aghedo, E. (2021). Board gender diversity and financial performance of listed manufacturing firms in Nigeria. *Journal of Business and Management Studies*, 3(2), 71–89.
- Nwude, E. C., & Nwude, C. A. (2018). Board structure and firm performance: Evidence from Nigerian listed companies. *International Journal of Business and Management*, 13(11), 39–50. <https://doi.org/10.5539/ijbm.v13n11p39>
- Ogbeide, S. O., & Akanbi, T. A. (2022). Firm size, leverage and market performance of oil and gas firms in Nigeria. *Journal of Finance and Investment Analysis*, 11(1), 55–71.
- Okonkwo, I. V., & Ibe, C. C. (2022). Gender representation on corporate boards in Nigerian energy companies. *Journal of African Business*, 23(4), 512–529. <https://doi.org/10.1080/15228916.2021.1954768>
- Securities and Exchange Commission. (2021). Nigerian Code of Corporate Governance implementation report. Securities and Exchange Commission Nigeria.
- Terjesen, S., Couto, E. B., & Francisco, P. M. (2020). Does the presence of independent and female directors impact firm performance? A multi country study of board diversity. *Journal of Management and Governance*, 24(2), 505–534. <https://doi.org/10.1007/s10997-015-9313-2>
- Uwuigbe, U., Uwuigbe, O. R., & Okorie, B. (2019). Board diversity and corporate performance in Nigeria. *Journal of Economics and Sustainable Development*, 10(4), 88–101.